The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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20 Condes of Chili, £1.	25 Leadhills, £3 17s. 6d.	10 Roman Grav., £7 18 9
50 Derwent, 25s.	25 Llanrwst, 37s. 6d.	25 St. Harmon.
20 Devon Cons., £3¼.	25 Lovell, 21s. 3d.	50 So. Rom. Grav., 3s.
25 Don Pedro, 11s. 6d.	30 Llan Gan, £3.	20 Tankerville, £3 18s 9d
20 East Van, £2¼.	5 Minera, £13¾.	50 Van Consols, 11s.
50 Exchequer, 3s. 6d.¶	30 N. Quebrada, £2 1s.	25 W. Tankerville, 14s.
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20 Glyn, 11s.	50 Pandora.	10 W. Wye Valley, £3⅞.
25 Glenroy, 16s. 6d.	50 Penstruthal, 5s. 6d.	10 Wye Valley, £2.
10 G. Laxey, £22¼.	100 Pestarena, 5s. 3d.	

*** SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

D'ERESBY MOUNTAIN (LEAD).—SPECIAL BUSINESS as BUYER or SELLER in these Shares.
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15 Devon Cons., £3¼.	20 Leadhills, £3 18s. 9d.	20 Tankerville, £3 18s 9d.
30 East Caradon, 11s.	40 Llanrwst.	10 Van, £27.
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10 Eberhardt, £6 11s. 3d.	50 Marke Valley, 11s.	30 W. Tankerville, 15s 6d
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MINING.—Eberhardt, Port Phillip, Plumas Eureka, Kapanga, Hultafall, Alamillos, Linares, Cape Copper, are worth attention. Also, Leadhills, Roman Gravels, Grogwinion, West Wye Valley, St. Harmon, and Devon Consols.
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East Van, 45s.	Penstruthal, 5s. 3d.	Exchequer, 3s. 6d.
Grogwinion, £3 13s.	Roman Grav., £7⅞.	Eberhardt, £6½.
Glenroy, 16s. 6d.	Rookhope, 18s.	Flagstaff, 13s. 6d.
Gorsedd and Mer., £4⅝	Tankerville, £3¾.	Frontino, 37s. 6d.
Great Laxey.	Tincroft, £11¾.	Hultafall, £4½.
Hingston, 10s.	Van, £25½.	Last Chance, 17s. 6d.
Leadhills, £3⅞.	W. Tankerville, 15s.	N. Zealand Kap., 16s.
Llanrwst.	Wye Valley, 37s. 6d.	Port Phillip, 11s.
Panty Mwyn.	West Wye Valley, £3⅞.	Richmond, £8 8s. 9d.
North Laxey, 4s.	Wh. Grenville, 46s.	Tecoma, 3s. 6d.
Pandora, 12s. 6d.	White Cliff.	Yorke Peninsula, 5s. 3d

Carn Brea, D'Eresby, Devon Consols, Dolcoath, Mellanear, Minera, South Molton Consols, Wheal Crebor, West Godolphin, Wheal Kitty.——Almada, Argentine, Chicago, Colorado, Hornachos, I.X.L., Javali, Malabar, South Aurora.
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Chontales	12s.	13s.	New Zealand Kapanga	12s.6d.	15s.
D'Eresby	50	60	Panulcillo	1¼	1⅝
Devon Great Consols	2¾	3¼	Parys Mountain	9s.6d.	10s.6d
Dolcoath	30	32	Pateley Bridge	2⅞	3¼
Don Pedro	10s.	12s.	Penstruthal	4s.	5s.
Eberhardt	6⅜	6⅝	Richmond (ex div.)	8¼	8½
East Caradon	10s.	12s.6d.	Roman Gravels	7¾	8
East Van	2	2¼	Rookhope	17s.	19s.
Exchequer Gold	3s.	4s.	South Caradon	80	90
Flagstaff	12s. 6d.	15s.	South Condurrow	9	9¼
Frontino	1⅞	2⅛	Tankerville	3¾	4
Glenroy	14s.	16s.	Tincroft	11	12
Gorsedd and Merllyn	4½	5¼	Van	25	26
Grogwinion	3½	3¾	West Chiverton	14	15
Great Laxey	20½	21½	West Pateley Bridge	1½	2
Herodsfoot	9	9½	West Godolphin	1	1¼
Hingston	9s.	11s.	West Tankerville	12s.6d.	17s.6d
Last Chance	⅜	⅞	West Wye Valley	3½	4
Ladywell	17s. 6d.	20s.	W. Grenville	2½	3
Leadhills	3¾	4	Wheal Kitty	1½	1¾
Marke Valley	11s.	13s.	Wye Valley	1½	2
North Laxey	3s. 6d.	4s. 6d.	Yorke Peninsula	4s.6d.	5s.6d.

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50 Aberdaunant.	40 Flagstaff, 13s. 9d.	20 Pennant.
15 Alltami.	20 Gorsedd & Merll., £5.	100 Penstruthal, 4s. 9d.
50 Bodidris.	15 Great Laxey, £21 2s 6	75 Port Phillip, 12s.
25 Birdseye Creek, 18s. 9	20 Grogwinion £3 15s	30 Rookhope, 18s. 6d.
40 Chontales, 13s. 3d.	25 Glenroy, 17s. 6d.	15 Richmond, £8 8s. 9d.
50 Cambrian, £2 10s.	15 Hultafall.	10 Roman Grav., £7 15s.
20 Chapel House, £2 16 3	10 Hornachos.	30 S. Roman Grav., fully paid, 2s. 6d.
10 Caron, £2 8s. 9d.	25 Hingston, 9s,	20 Tankerville, £3 17s 6d
50 Condes of Chili, 14s. 9	25 Last Chance, 16s. 3d.	60 Tecoma, 4s.
25 Chicago, £1 12s. 6d.	20 Leadhills, £4.	50 Tyn-y-Fron
50 Don Pedro, 11s.	25 N. Quebrada, £2 2s. 6d	3 Van, £26 5s.
10 Devon Con., £3 6s.	40 Nth. Laxey, 5s.	30 West Pateley Bridge, £2 2s. 6d.
2 D'Eresby, £56 10s.	25 New Zealand Kap., 17s. 6d.	
15 East Van, £2 5s.	20 Marke Valley, 12s.	25 W. Tankerville, 16s.
10 Eberhardt, £6 12s. 6d.	5 Minera, £12 2s. 6d.	100 Yorke Penin., 5s. 6d.
25 East Caradon, 11s. 6d.	150 Pestarena, 5s. 3d.	

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3	CARN BREA	TIN.	
1	DOLCOATH	do	
15	EAST CRAVEN MOOR	LEAD.	
50	EAST CHIVERTON	do	
5	EAST VAN	do	
200	GLENROY	do	
10	GREAT HOLWAY	do	
4	GREAT LAXEY	do	
5	GROGWINION	do	
40	HULTAFALL	do	
30	LOVELL	TIN.	
100	MEDLYN MOOR	do	
150	NORTH LAXEY	LEAD.	
50	PARYS MOUNTAIN	COPPER.	
100	PRINCE OF WALES	do	
20	PANDORA	LEAD.	
100	PENNERLEY	LEAD.	
100	ROOKHOPE	do	
15	ROMAN GRAVELS	do	
50	RED ROCK	do	
20	SO. CWMYSTWITH	do	
15	ST. HARMON	do	
20	SOUTH CONDURROW	TIN.	
10	TANKERVILLE	LEAD.	
60	VAN CONSOLS	do	
5	WEST WYE VALLEY	do	
50	WHEAL AGAR	TIN.	
20	WEST CRAVEN MOOR	LEAD.	
25	WEST CHIVERTON	do	
25	WHEAL JANE	TIN.	
100	WHEAL CREBOR	COPPER.	
20	WHEAL GRENVILLE	do	
10	WHEAL PEEVOR	TIN.	

N.B.—Some of the above will be sold on specially favourable terms to cash purchasers.

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CLAUSTHAL MINING SCHOOL NOTES.—No. LXII.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,
Certificated Mining Engineer.
(Formerly Student at the Royal Bergakademie, Clausthal).
[The Author reserves the right of reproduction.]

SECTION V.

4.—As compared with brickwork or masonry, timbering has the advantage of a much less first cost, and this advantage is increased by the fact that timbering requires less room than brickwork or masonry, and it can be much more quickly placed in position. It has, however, the disadvantage that it does not last so long, and entails a constant expenditure for renewal and repairs; and, besides, is not so strong as masonry, as cases may often occur where the pressure becomes so great that the timbering will give way.

5.—Masonry and brickwork, on the other hand, when constructed in suitable forms and dimensions, will resist any pressure, however great, which may occur in a mine, and being practically imperishable entail no after expense for repairs and renewals. On the contrary, however, it requires more space, and therefore entails in the first place a greater expense in excavating and driving, in which also it is often necessary to use timber for temporary support, as in building underground engine houses, &c. This leads also to a slower rate of progress, which originates chiefly from the fact that walling and masonry are put together in small pieces (brick by brick), while timber of suitable lengths may be easily jointed together. In the case of a pressure in several directions a circular form must be chosen, whilst a few suitably disposed struts would enable almost any given form of timbering to resist the several pressures. All these causes lead to a great increase of first cost as compared with timbering, and therefore the use of masonry for mere temporary purposes is unadvisable where timbering would meet the wants of the case.

6.—Iron, owing chiefly to its great price compared with wood and masonry, has as yet, except in the sinking of shafts and in operations for shutting off water, not come into very extensive use. The difficulties of cutting or casting it into suitable shapes, and the inconvenience attending the joining of several parts together, besides its comparatively great weight, are also disadvantages that limit its extensive use. In England cast-iron stempels and props are used in some coal mines, and in Germany wrought-iron is not unfrequently used in the place of timber in levels, &c. Iron possesses all the advantages of masonry and timbering, though perhaps not always to the same degree, as it is not under all circumstances indestructible, and cannot support so great a pressure as well constructed brickwork or masonry. It occupies, however, less room, and in some cases can be much more quickly fitted up than timbering. In opposition to the disadvantage of its higher price must be placed the fact that after its use a large percentage of its original price can be obtained for it merely as old iron.

The temporary or other nature of the support, the amount of pressure to which it is likely to be subjected, the local conditions, and the price are items which should be considered, and of decisive importance in choosing one or other method of support.

TIMBERING MATERIAL.—The different kinds of wood suitable for use in mines may be classed in two chief divisions—leaf wood and pine wood. Leaf wood, or non-coniferous wood, has a solid compact core, and a comparatively soft outside, or sap wood, and contains no turpentine. Pine wood, or coniferous timber, has a comparatively soft core and hard outside, and generally contains more or less turpentine. No rule can be laid down for the use of pine wood or leaf wood in mines, its cost in any particular neighbourhood is generally the factor of decisive importance; usually, however, hard wood is better than soft, and the resinous woods better than the non-resinous. The tissue of various kinds of timber is classed in two divisions, as cellular and vascular tissue; in the former the wood appears to consist of clusters of minute cells, and in the latter of bundles of tubes, giving the wood a fibrous texture or appearance. These tubes, however, are really composed of elongated cells, which break joints with each other. The strength of any wood when strained along the grain (subjected either to a pull or thrust) is dependant on the strength of the walls of these cells; but when strained across the grain, the strength of the wood depends simply on the adhesion of the sides of the cells or tubes together. The vascular tissue forms the woody fibre of the tree, and is seen arranged in concentric layers round the pith, each layer in most cases representing one year's growth.† The cellular tissue forms radiating lines from the centre or pith of the wood, which is itself formed of cellular tissue. The wood of a tree stem may be roughly divided into two portions, the outside younger portion called the sap wood, and the inner older portion the heart wood.

Among the examples of leaf wood the oak takes the first place. The wood of the oak is extremely compact, hard, and the strongest and toughest grown in temperate climates. It excells, however, chiefly in its durability, being in this point only exceeded by the acacia. It lasts longer than any other timber under unfavourable circumstances, such as dryness, absence of fresh air, and under high temperatures. When kept constantly wet, or under water, it is practically not liable to decomposition. It has, however, the defects that it is liable to warp, and it seldom grows straight, 18 ft. being about the average length of the longest pieces which are obtainable. The oak must generally be sawn to shape before it can be used, and its high price and the difficulty of obtaining it in considerable quantities are the chief drawbacks to its extensive use in mines.

The acacia is extremely compact, tough, and flexible, and resists decomposition better than any other kind of wood; its use is, however, limited to more southern climates. Coombes gives as the result of a trial at the Carmeaux Colliery, in the Department Tarn, that in a level subject to a high temperature and a stagnant atmosphere white oak was decomposed in three months, and black oak in two years, the acacia, which was inserted uncut (with the bark and sap wood), was found sound after four years, it appeared that a sticky, slimey sap separated itself from the sap wood, and penetrated towards the core, and retarded the decomposition which after four years had attacked the sapwood to the depth of ¼ inch only.

Beech and birch are comparatively strong and hard; they readily decompose in a stagnant atmosphere, and are, moreover, somewhat brittle, birch especially, and beech is liable to red-rot in water; both kinds of wood rot soon when subjected to alternate dry and moist atmospheres. Ash is not a suitable kind of wood for most purposes underground, inasmuch as its flexibility prevents its use as a support, where a direct thrust along the grain occurs; its extreme toughness, however, renders its use for such purposes as the handles for tools, wedges, rounds for ladders, and water-tight timbering; for which purposes also the lighter kinds of leaf wood, as alder, elm, poplar, willow, and maple, may be used; they are otherwise unsuitable for pit timbering.

The following kinds of pine wood are generally used underground. The pine grows straight and regular, and to a comparatively great height; its wood is compact and strong enough for most underground purposes. It contains a large quantity of resin, and as it is comparatively cheap it is one of the most generally used kinds of wood for mining purposes. The larch possesses similar properties; it excels in straightness and the large amount of resin it contains, which, on account of its structure, it retains for a long time after being cut; and is, besides, less liable than all other kinds of pine to rot on account of alternations of dry and moist atmospheres. Deal possesses very similar properties to pine, it is, however, less dense, and contains less turpentine. Fir, as a rule, is more brittle, and less dense than the other kinds of pine which we have just noticed; it contains, however, more turpentine than pine and deal, and it is, therefore, well suited for timbering in water (as water-wheel chambers, &c.) It has the great disadvantage that it does not always grow perfectly straight, and requires, therefore, more cutting and shaping. A great difference between pine wood and leaf wood is that in pine the outer or sap wood is harder than the inside, whilst in leaf wood the core, or heart, is the hardest.

The following table gives in the first column the tenacity along the grain of the various kinds of timber we have mentioned; and in the second column the resistance to crushing by a direct thrust; which latter is lessened by one-half when the timber is wet; both in pounds avoirdupois per square inch.

Oak	10,000—19,000	...	...	6,000—10,000
Acacia	15,000	...	...	...	—
Beech	11,000	...	...	...	9,000
Birch	15,000	...	...	...	6.500
Ash	17,000	...	...	...	9,000
Pine	13,000	...	...	...	6,000
Larch	9,000	...	...	...	5,000
Deal	—	...	...	...	—
Fir	12,000	...	...	...	5.000

The character of good timber and its usefulness depend on various causes. As a rule that timber is best which is most solid and compact, a characteristic due to the slowness of its growth. This peculiarity will readily be noticed in timber, since timber which has grown slowly has the annular years' rings very fine and close together. The rapidity of the growth of timber appears to depend on the nature of the soil and the climate; a poor soil and high elevation appear to favour slowness of growth; a rich soil, on the contrary, rapidity of growth. The conditions for slow growth are, therefore, oftenest found in mountainous districts, whilst low planes appear to favour a rapid growth. The cause of the greater compactness of wood that has grown slowly seems to be due to the fact that the proportion of vascular or fibrous tissue compared to that of cellular tissue is greater. That wood is generally worst which has grown on a wet clayey soil. Good pine that has grown in the middle of a forest, so as to be comparatively free from violent winds, is always perfectly straight and slim; whilst pine which has grown in exposed situations is sometimes crooked and warped. The good character of any special kind of timber appears to attain a maximum at a given age; thus, for instance, oak appears best when cut at the age of 300 years, and most pine trees at ages varyvarying from 80 to 100 years. For most purposes underground unsawn wood may be used which has been cut at the above suitable age. It is often necessary to use wood of such small dimensions that if that is chosen which has been allowed to grow to the proper age it must be sawn down to the proper dimensions; whilst if uncut wood is used very young wood must be taken. This latter is often preferable, since cut-wood has as a rule a greatly inferior strength.

Of great importance to the later durability of the wood is the time chosen for felling the timber. On this point opinions of professional men differ, but the general rule always holds good, that the timber should be felled in winter, when there is no circulation of the sap, and never in summer. In many neighbourhoods the whole time between the beginning of November and the beginning of March is so employed. It is better, however, to cease felling during the coldest portion of this time—the latter part of December and January—as the little sap which remains might become frozen and split or crack the timber. In some disticts the felling is carried on during the whole of the year, with the exception of the months of March, April, and May, when the sap begins to circulate most actively. After the timber has been felled it must be properly dried in order to remove the sap. For this reason the timber is generally barked soon after being felled, and besides prevents wood-destroying insects which settle mostly in the bark getting into the timber. The barking of the timber allows of it being more readily dried, for if the drying occupies too long, part of the sap will still remain, and will lead to rot sooner than if the timber were perfectly dry. By many persons the barking of the timber is considered unadvisable, inasmuch as it leads to a too rapid drying, which may readily cause the timber to split and crack.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath, Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

† Trees belong chiefly to that class of the vegetable kingdom which grows by the formation of successive layers on the outside, and hence called exogenous.

THE MANUFACTURE OF PIG-IRON.

By JAMES COLQUHOUN, Tredegar Ironworks.*

Since the introduction of the hot-blast by Neilson, in 1828, many different varieties of heating apparatus have been tried. The most common class of cast-iron stove used in this country is the ∩ pipe. There are two rows of pipes in each stove laid against each other on the top in order to force the heat to circulate between and round the back of them. The cold-blast enters each end, passing up and down until it reaches the other end, whence it passes into the hot-blast main around the furnace. This main is lined inside with fire-brick 9 to 12 in. thick, to prevent radiation. The gas burner is placed in the front of the combustion chamber. The supply of gas is regulated by a valve, and the air for the proper combustion enters by a swivel disc with three holes in it. This is a simple construction of stove, and works with regularity, and is not expensive to keep in repair. A fire-grate is put in at one end in case coal may be required during any stoppage. The pistol stove is used in several districts, principally in Scotland. The term is derived from the resemblance of the head to a pistol stock. The pipe is oblong in cross section, and is divided by an internal partition reaching to within 9 in. of the top. The air passes up one side, round the top, and down the other. There are two rows of pipes in each stove which lean against each other, as in the ∩ stove. The total internal heating surface of the stoves should be from 9000 to 10,000 square feet, and this will be sufficient to give a heat of 1100° Fahr. at the tuyeres. The brick stoves are coming into general use, and in some instances are replacing cast-iron ovens. There is much to be said in favour of Cowper and Whitwell's stoves. The later especially has been working successfully for several years. The stove consists of vertical walls of fire-brick, enclosed in a wrought-iron casing. The gas is turned on, and when the brick walls are heated to the required temperature it is turned off, and the cold-blast admitted on the opposite side. The blast in its passage robs the brickwork of its heat, and enters the furnace at a high temperature. After about two hours' working the cold-blast is again turned off, and the gas put on, and so on, the blast and gas being admitted alternately. These ovens will stand a temperature of 1500° without damage. It is a much disputed point with Mr. Bell and others whether there is any advantage to be gained in heating the blast much beyond 1000°, but there is a good deal to be said in favour of the greater durability of this stove over the cast-iron one.

Lifts of various kinds are employed. In some works pneumatic lifts are employed, the compressed air being obtained from the blowing engine. Sir William Armstrong's hydraulic system is also in use at some works. The most common hoist consists of cast-iron columns bound together with cast-iron girders and diagonal stays. Wooden guides for guiding the cages are fixed in a similar manner to those in a colliery, and the winding-engine is generally placed at the bottom. In place of an engine a water balance is used. A tank is placed under the floor of the cage, having a discharge valve in the bottom. When the cage is at the top a sufficient quantity of water is run into the tank to lift the cage at the bottom loaded with the materials to be lifted. The speed of the cages is regulated by a brake in the usual way. The water is pumped into a cistern on the top of the hoist. This is a very simple description of hoist.

More than 20 years ago the common type was the beam-engine of long stroke, varying from 6 to 12 ft. These engines were made of large size for blowing a whole plant of furnaces, the largest being erected at Dowlais, Ebbw Vale, and Tredegar, having blowing cylinder 12 ft. in diameter and 12 ft. stroke. Since that time different classes have been tried, the horizontal type having proved a failure. The engines in most favour with blast-furnace engineers are the direct-acting vertical short stroke, either single or coupled in pairs, each pair having a fly-wheel between them with the cranks placed at right angles. Engineers are at variance as to whether the long or short stroke engines are the best. The ponderous beam-engines are expensive in the first construction, and should any breakdown occur the whole furnaces are brought to a stand, but the advocates of these engines affirm that better results are obtained from these than from the short-stroke engines. It must, however, be admitted that to have several engines of the most approved short-stroke direct-acting type so arranged that one set can be working and the other under repair is of considerable advantage. In this case there is little liability of the furnaces standing. If it can be proved that there is more loss of blast at the end of each stroke of the engine this is not of much importance, seeing there is sufficient gas to raise the steam necessary for working the engines, and it will be found that the short-stroke class, both in first cost and in after repairs, will be found the most economical.

The proper proportions of ore, fuel, and flux having been ascertained for the quality of iron required, these are charged regularly in their order at the top of the furnace. The hot blast entering at the tuyeres meets the heated carbon, and is resolved into carbonic oxide. This gas, mixing with the nitrogen of the atmospheric air driven in by the blowing engine, rises in immense volumes through the materials in the furnace. The descending materials absorb the heat contained in the gas, and the heat is thus returned to the hearth. In order that the gas may be robbed as much as possible of its sensible heat a certain height of furnace is necessary, and Mr. Bell has conducted many experiments in the Cleveland district to ascertain the capacity of furnace for fulfilling the condition of things, and has found that beyond 16,000 cubic feet no further cooling of the escaping gases is obtained. In his treatise on the "Chemical Phenomena of Iron Smelting" he says:—"At the Clarence Works there are furnaces of 11,500, 15,500, and 25,000 cubic feet, and all 80 ft. in height. These have been in operation from two to six years, so that by this time we ought to be able to form a tolerably correct idea of the relative value of each in point of consumption of coke. Now, the result of this experience, with all conditions equal, there is no perceptible difference to be detected. Were I to choose, as a mere matter of regularity in working, I probably would give the preference to a furnace having a capacity of 15,000 to 16,000 cubic feet, but beyond these dimensions I maintain that nothing has come under my notice to induce me to hope for any advantage, so far as saving of fuel is concerned, by any further addition to height or size."

Mr. Edward Williams, of Middlesborough, who has had extensive means of testing this matter, says that at Eston furnaces one of 15,000, one of 20,000, and one of 27,000 cubic feet, all using the same ironstone, with fuel from the same colliery, there was no economy in the larger furnaces. By increasing the capacity of the furnace beyond what is stated by these competent authorities a larger make may be obtained, but there will be no diminution in the quantity of coke required to make 1 ton of iron. The Cleveland furnaces with 5000 to 6000 cubic feet capacity, erected more than 20 years ago, required about 30 cwt. of coke, with a temperature of blast at the tuyeres of 650° to smelt 1 ton of iron, and the weekly production was only about 150 tons. The capacity was gradually increased to 30,000 (in one instance, at Ormesby, the largest furnace in existence, to 48,149 feet, with a blast temperature of upwards of 1000°), and the saving of coke is 7 to 8 cwts., and the production per week increased to upwards of 400 tons. The small type of furnace long existing in South Wales is being replaced by one of larger dimensions with considerable success—in most instances with a saving in fuel, and an increased make of iron corresponding to those obtained by the Cleveland furnace. The same course is being pursued in all the ironmaking districts of the United Kingdom.

After the furnace is built a fire is lighted in the hearth, and maintained for several weeks, till the whole of the brickwork is thoroughly dried. The tuyeres, tymp, and water blocks are then put in, and dry wood is placed in the hearth. A considerable quantity of coke is charged on the top of this, and afterwards a few charges of coke, limestone, and ore. The wood is then lighted in the hearth, and when the fire has appeared at the top small charges of ore and limestone are added with the coke, and continued for a short period before the blast is turned on. A poor class of ore should be used at first, and the hose pipes reduced in diameter. If a good start be made the slay will be clean, and the first iron obtained of grey quality. Mistakes have been made in blowing in furnaces by overdriving them, and by increasing the burden too rapidly. In some instances, after all remedies had been tried, it was considered necessary to blow the furnaces out, when it was found that parts of the boshing and lining were completely destroyed. Too much care cannot be taken to increase the temperature of the furnace gradually, so as to bring the latter up to its proper working condition. At stated periods the molten metal which has accumulated in the hearth is tapped at the bottom, and run into sand moulds. The pig bed is placed in front of the furnace, and has a gradual fall from it. The moulds are D-shaped, the longer one or feeder is called the sow, and the smaller ones, running at right angles to it, the pigs. When the metal is run off the tapping hole is plugged with clay, the blast turned on, and the smelting operations proceed till another tapping is necessary. Sometimes iron moulds are used instead of sand.

For ascertaining the high temperatures of the blast entering the furnaces the ordinary thermometer is unsuitable, and a pyrometer—made on the principle of the expansion of metals—is employed. This is a very convenient instrument in the hands of the workmen, and the readings, taken several times daily, although not strictly accurate, give a fair indication of the temperature of the blast, and are found of considerable assistance to the manager in conducting all the operations connected with the proper working of the furnace. Sometimes the melting points of metals—such as lead, which melts at 608° Fahr., or zinc, which melts at 705° Fahr.—are employed. A piece of either of these metals is held before the plug-hole, and the time it takes to melt it is noted; or a piece of zinc is placed in a little cup on the top side of the belly-pipe, where the workmen can always observe when it reaches a state of fusion. A very useful pyrometer in considerable use is thus described by Dr. Siemens, the inventor:—"It consists of a portable vessel, formed of three concentric cylinders of thin copper plate, the space between the inner and middle one being filled with cow-hair, and that between the middle and outer one with air, so as to prevent as perfectly as possible the loss of heat from the interior. A delicate mercurial thermometer is fixed in the interior of the vessel, being protected by a perforated shield, and furnished with a moveable sliding scale, showing pyrometer degrees, each of which is equal to 50° of the ordinary thermometric scale. For obtaining the temperature balls of copper or platinum are used, which are so adjusted that 50 of them would be equal in thermal capacity to an imperial pint of water. Each ball is perforated by a hole, through which a rod is passed in exposing the same to the action of heat to be measured. Just before using the instrument an imperial pint of water is poured into it, and the slide is so moved that the zero point of its scale corresponds with the top of the mercury in the thermometer. The ball, after having been exposed to the heat for two or three minutes, is plunged into the water. The mercury will then be observed to rise, and the absolute measure of the temperature is obtained by adding the reading on the pyrometer scale opposite the new level of the mercury to the original temperature of the water before the ball was introduced. With a little practice very satisfactory results may be obtained with this instrument, but its application is limited to the heat at which the metal ball is deteriorated, nor can it be used for measuring the temperature of inaccessible places." To those who desire to become more intimately acquainted with the chemistry of the blast-furnace, we recommend the excellent treatises by Bell, Schintz, and others.

Pig-iron is divided into several qualities, and is selected by breaking when sufficiently cooled after casting. The qualities, with slight differences in some districts, are distinguished as Nos. 1, 2, 3, and 4, mottled and white. No. 1 shows a large-grained dark grey fracture, the grain becoming gradually finer in Nos. 2, 3, and 4, at which point the iron ceases to be grey. These are used for Bessemer, foundry, or forge purposes. The mottled and white are of a lower quality, and used in the forge. The slag from a furnace working on grey iron is usually white to grey. When the furnace is making mottled or white the slag is black. In some of the continental iron districts the slags have been utilised, and made into paying stones. Lately Mr. C. Wood, of Middlesborough, has taken

* A lecture delivered at the Bristol Mining School, on Monday, Feb. 18. (Continued from last week's Journal.)

out patents for making slag-brick for building purposes, and slag-wood for covering steam-boilers.

In order to secure regularity in the working of the furnace constant attention is required on the part of the manager. He should observe the condition of the slag, so as to detect any change that may occur, that the temperature and pressure of the blast are uniformly maintained, and that everything connected with the manufacture is carried on with the utmost possible regularity. Too much care cannot be taken in weighing the materials and charging them, so that they may be kept in the furnace at a proper depth, and properly distributed all round. The depth of the materials should be frequently gauged with an iron rod through small holes in the bell.

THE METALLURGY OF NICKEL.

Some recent improvements in the metallurgy of nickel formed the subject of an interesting paper read before the Society of Arts, on Feb. 20, by Mr. ALFRED H. ALLEN, F.C.S., Vice-President of the Society of Public Analysts. He stated that the extraction of nickel and cobalt has for a long time been conducted chiefly abroad; and the very few English firms who have made the extraction of these metals a speciality have with more or less wisdom done their best to keep their processes secret. In practice the nickel and cobalt have usually been obtained in a matte or regulus containing very variable proportions of nickel, cobalt, copper, bismuth, antimony, arsenic, iron, sulphur, &c. In other cases advantage has been taken of the extraordinary affinity of nickel for arsenic, a fact which enables it to be separated from most other metals, and even to be quantitatively determined, as in Plattner's system of analysis, by the blowpipe. But the whole process of nickel and cobalt extraction threatens to be revolutionised by the discovery of the deposits of nickel ore of a very extraordinary character in New Caledonia. The peculiarity of the New Caledonia ore is its almost absolute freedom from arsenic, copper, and other metals precipitable from acid solutions by sulphuretted hydrogen, with simultaneous freedom from sulphur. It is also remarkable that many specimens are almost wholly free from cobalt, and in no instance has he met with any considerable proportion of that metal. The ore in question consists essentially of hydrated silicate of nickel and magnesium. Many specimens contain a considerable quantity of iron, which appears to exist partially as ferrous silicate. Most of the cargoes he has examined have contained a very appreciable quantity of chrome iron ore. The mineral which is richest in nickel is of a bright green colour, in some cases almost rivalling the lighter shades of malachite. Between this and pure magnesian silicate there is every gradation, and, of course, the composition varies within very wide limits.

Although silicate of nickel is met with in other places besides New Caledonia, the existence of considerable deposits of rich ore is, however, so far as is known, almost wholly confined to that locality, The same mineral has been found and even mined in Spain, in the province of Malaga, but the ore there found is much poorer than the New Caledonian mineral. Of course the New Caledonian ore is not always uniformly rich; in fact, it has been found difficult to insure cargoes of ore attaining the contract quality of 10 per cent. metallic nickel on the ore dried at 100° C. In one instance a cargo of ore was imported to England on the strength of an analysis showing the sample to contain 29 per cent. of metallic nickel, and only 3 per cent. of magnesia, whilst on arrival the bulk only assayed 12 3/4 per cent. of metallic nickel. The following analyses fairly represent the quality of the ore imported to this country. No. 1 contains a larger proportion of moisture than is usual, but the ores are remarkably hygroscopic, gaining 3 or 4 per cent. on exposure to a fairly dry atmosphere for a few hours:—

	No. 1.	No. 2.
Silica	46·44	40·45
Alumina	·06	1·54
Oxide (as protoxide) of iron)	1·83	4·96
Oxide of copper	None	·03
Oxide of lead	None	·09
Oxide of nickel	15·33*	13·25†
Magnesia	15·90	24·62
Lime	Traces	Traces
Combined water	8·02	9·40
Moisture	11·30	5·60
Total	98·88	99·94

* = Nickel, 12·05 per cent. † = Nickel, 10·42 per cent.

But the chief object of Mr. Allen's paper was to describe a new method of extracting nickel from the New Caledonian ore which he has invented. He treats a known weight of the powdered ore with a quantity of sulphuric acid and water corresponding to an equal weight of brown vitroil, and chemical action speedily begins without application of external heat, the mixture swelling up and quickly setting to a bulky, dry, porous mass, consisting of fine silica mixed with sulphates of nickel, iron, and magnesium. It is well to add a small proportion of nitrate of soda, so as to avoid the necessity of peroxidising the iron at a subsequent stage of the process. It is next desirable to heat to redness, so as to get rid of the free sulphuric acid. The product is a dry white powder. The ignited product is next dissolved in a minimum quantity of water, by which means silica, chrome iron, and any undecomposed ore are left as a residue, and the metallic sulphates are obtained in strong solution. The residue is allowed to settle as completely as possible, and the deep green solution is then syphoned off. As the metals present exist as sulphates, the addition of any compound of calcium is very objectionable, and hence he replaces the usual dose of lime or chalk by magnesia obtained by igniting magnesite. The magnesite in the market contains fully 98 per cent. of real magnesium carbonate, and is, therefore, well adapted for the purpose.

It is desirable to know beforehand the amount of iron present in the liquor, and then to add the theoretical quantity of magnesia necessary. He has found in practice that if introduced in the form of fine powder, the ignited magnesite will do almost the calculated amount of work. It is desirable, however, to test the liquid towards the end of the precipitation, and to add a little more magnesia if necessary. Any excess will cause precipitation and consequent loss of nickel. He has proved experimentally that no nickel is precipitated as long as any ferric salt remains in solution. With the oxide of iron is precipitated any alumina or oxide of chromium which may be present, and the precipitate also carries down with it any silica or other suspended matters. The next step is to precipitate the nickel while leaving the magnesium in solution. This can be effected by several methods, of which the following are to be preferred. Addition of an amount of calcined magnesite exactly sufficient to precipitate the nickel, with simultaneous or subsequent treatment with sulphuretted hydrogen; the process being conducted at a boiling heat. The reaction which is thus brought about is not only perfect theoretically, but experiment has shown that precepitation of the nickel is complete without addition of any magnesia beyond the amount theoretically necessary. The method suggested itself after many unsuccessful attempts to prepare a sulphide of magnesium. The sulphide of nickel is obtained as a dense black precipitate not readily oxidisable. It may be converted into oxide of nickel and metallic nickel by the usual processes. An experiment on ½ cwt. of New Caledonian ore showed that the above process was thoroughly practicable.

The objection to this mode of precipitating the nickel is that it is obtained as sulphide, and thus requires further manipulation to fit it for reduction to metal. If the sulphuretted hydrogen be omitted so as to obtain the oxide direct, the result is not satisfactory. Owing probably to the affinity of magnesia for oxide of nickel it is impossible completely to decompose a solution of nickel sulphate even when magnesia is added in considerable excess, and in the form of recently precipitated hydrate. This statement, Mr. Allen observes, requires some modification, however, for by operating in a particular manner, he has found it possible wholly to separate the nickel from a solution containing nickel and magnesium sulphates merely by the treatment with magnesia, and in such a manner as to leave the liquid free from nickel, while the precipitate contains no magnesium. In this manner pure oxide of nickel may be extracted from the New Caledonian ore without employing any reagents besides sulphuric acid and calcined magnesite (and an insignificant quantity of nitrate of soda). This modificaoion of the process has not hitherto been tested on larger quantities than 1 lb. of ore. A process somewhat akin to his own has been patented by Mr. Kamienski, of Paris. In point of date, his patent has somewhat the priority of Mr. Allen's, whose specification having been filed before the lapse of the six months which ended with the publication of his patent. Mr. Kamienski dissolves in hydrochloric acid, separates silica, precipitates the iron with chlorine water and carbonate of magnesium, and then separates the nickel from the magnesium by fractional precipitations with carbonate of sodium. He obtains common salt as a secondary product. It is, Mr. Allen thinks, evident that the same objections which render his process imperfect apply with much greater force to that of Mr. Kamienski.

Commercial nickel varies much in quality. Some samples are mere alloys of copper and nickel. All the so-called "nickel coins" are really copper-nickel alloys, containing a large proportion of copper, generally two-thirds of the whole weight. Copper is in no way objectionable in nickel to be used for the manufacture of German silver, but the presence of more than traces of iron, sulphur, lead, and antimony must be carefully avoided. As in case of iron the presence of carbon or silicon greatly promotes the fusibility of nickel. Pure nickel is well known to require a very high temperature for its fusion, and when this difficulty is overcome, it is difficult to obtain the casting free of bubbles. Prof. Winkler has recently achieved great success in this direttion, and has obtained large and compact ingots of pure nickel and cobalt by ensuring a sufficiently high temperature, suitable pots, taking precautions to keep out carbon and silicon, and casting in an atmosphere free from oxygen. For the fusion he employs a porcelain crucible embedded in a magnesia packing contained in a Hessian clay crucible, which last is inserted in a graphite crucible, and embedded in fire-clay. To obtain castings free from bubbles, it is found necessary to pour the metal into the mould through a flame of burning petroleum. The casting of the nickel plates to serve as anodes for the electro-nickelling cells has recently become necessary. The melting is effected in ordinary steel pots, with the addition of a little borax or other flux.

The process of depositing nickel by the battery is one which is now very extensively carried on, and has been the subject of more than one lawsuit. Practically, the only solution employed for the electro-deposition of nickel is that of the double sulphate of nickel and ammonium. Although the double sulphate of nickel and ammonium is readily soluble in water, even more so than the sulphate of nickel itself, it is almost insoluble in liquids containing much sulphate of ammonium. Hence, if a strong solution of ammonium sulphate be added to a liquid containing sulphate of nickel or sulphate of nickel and ammonium, a beautiful light blue crystalline precipitate of the double sulphate is thrown down, and the liquid becomes nearly colourless. So complete is the precipitation that the method may be used to precipitate the nickel in old vat liquors. Excess of sulphate of ammonium causes a similar precipitation in a solution containing sulphate of magnesium or ferrous sulphate, but not in a solution of ferric sulphate. The ferrous and magnesium sulphates are not precipitated with nearly the same ease as the nickel sulphate, but in presence of the last salt they are more or less dragged down with the nickel precipitate. As iron in the ferric state is not precipitated, the impure solution of nickel sulphate obtained by the solution of metallic nickel in a mixture of nitric and sulphuric acids, can readily be treated with excess of ammonium sulphate, and the precipitated double sulphate of nickel and ammonium separated, washed with water containing sulphate of ammonium, and redissolved to prepare the nickel-plating bath. The solution for depositing nickel should not have a higher density than about 1030, and should be kept rather alkaline than acid. The current must be carefully regulated, or the deposit loses its lustre. A coating of any thickness may be deposited, and almost any metal may be covered. The deposit of nickel is especially suited for iron and steel articles, and is but little liable to tarnish in a fairly dry atmosphere, but it is unable to withstand the influence of continued damp. For fire-irons, polished fenders, and other comparatively large articles of steel and iron, it is very well suited; and for coating surgical instruments, and similar articles of steel, its use is daily extending.

After the reading of the paper, Mr. RILEY said—I should just like to ask Mr. Allen, with reference to his process for estimating nickel whether he has ignited the sulphide directly in a muffle. That gives excellent results. I have most carefully checked the process, and I have found that the best method is simply to take the sulphide, and to unite it in a muffle, and weigh it afterwards as oxide. By this means you get rid entirely of the sulphuric acid. It is not sufficient merely to heat it over a gas flame. I have made several careful experiments upon that point, and I was perfectly satisfied as to its accuracy. It considerably reduces the labour of the analysis. In fact, I must say that the analysis of these Caledonian ores is by no means difficult. I am sorry that I did not catch very clearly the mixture used in making the silicide of nickel. I should like to know the conditions under which it was formed, because taking analogous metallurgical operations, one would imagine that there must have been an excessively high temperature, for a high temperature and an excess of carbon in the presence of silicon would tend to produce a silicide. I am speaking without having before me the details of the mixture that was used, and I should hardly like to venture on any statement as to what action the sulphur might have. With regard to cube nickel, I do not think it is at all necessary to mix it with starch. It is sufficient simply to cut the cubes of oxide and bed them in charcoal. I saw that done at Liége some years ago, and the reduction is complete and satisfactory. As a fact, discoverable by analysing the samples, the cube nickel, is not so pure as the grain nickel. I may say that, if you have a high temperature, there is no difficulty in getting an alloy of silicon and iron containing 23 per cent. of silicon. I think Mr. Allen said 17 per cent. was found in this case. I quite agree with the statement as to the absorption by these ores of a very large amount of water. The amount is extraordinary: but I do not think that it is at all peculiar to metal ores. I have found the same in silicates of magnesia, just the same as in metal ores. I think it is simply a property due to the silicate of magnesia.

The CHAIRMAN: I should like to ask Mr. Allen if he could give us any information as to the probable extent of the deposit of the mineral that is to be found in New Caledonia; and also whether the carbon, which occurs in the finished nickel to the extent of from 1 to 1·5 per cent., has any effect upon the hardness of the material in the same way that the carbon present in iron has. Also, I should like to know whether there are no traces of phosphorus to be found in the mineral. There are none at all represented here in these tables. It would seem likely that there would be traces of phosphorous found in the mineral.

Mr. ALLEN: With respect to what Mr. Riley has said about the sulphide of nickel, I have tried it, but I cannot say that I have had any great experience of the process. The difficulty is that sometimes the sulphide is not pure as precipitated, but contains traces of foreign metals, and therefore I have always preferred to purify it. If I could know for a certainty that the sulphide was pure, I can understand that the process would answer very well.

Mr. RILEY: We always test it after drying.

Mr. ALLEN: Just so. You propose, of course, to ignite it with a closed crucible in the same way as you do copper sulphides. The sulphide of nickel you propose to ignite in a closed crucible? I find that the sulphate of nickel requires a very full red-heat to decompose it.

Mr. RILEY: I prefer to ignite the sulphide in a muffle, until it ceases to lose weight, and then weigh the resultant oxide.

Mr. ALLEN: Just so. Then, respecting the silicide, I do not say that there is anything extraordinary in getting 17 per cent. of silicon in it; but the curious point was this—that the patentee gives that process for obtaining the sulphide, and the samples that came into my hands consisted of silicide with only a trace of sulphide. And another curious point is that it was done by heating with sulphur in one case, and by heating with sulphate of calcium in another. It was rather remarkable that in those cases there should be no sulphide. There are other patent processes, notably a patent known as Holway's, in which a silicide of manganese is obtained. Silicides of manganese are well known, and have been obtained very rich in silicon, and, speaking generally, the characters of the silicides of nickel seem to agree with those of the silicides of manganese. It is also interesting with regard to the graphitoidal silicon. Mr. Riley rather anticipates me by asking specific information on the subject when I say that I propose to investigate it further. I am not aware that the silicide of nickel has been obtained or investigated before; but Mr. Riley will have an opportunity of criticising when I communicate results.

Mr. RILEY: I may, perhaps, remark, if it is not quite out of place, that silicon does drive out sulphur. You will not find sulphur where you have much silicon. The silicon will drive out the sulphur. I do not know whether the high temperature may not account for it.

Mr. ALLEN: The curious point, to my mind, is that when the invention was introduced to get the sulphide the inventer should succeed in getting the silicide. I may say that this silicide only oxidises superficially at a red-heat. You can roast it in the form of a coarse powder, when the surfaces of the fragments will oxidise, and the rest remain unchanged, and it is very difficult to dissolve it in acid. It takes hours to dissolve it in *acqua regia*. A mixture of hydrofluoric and nitric acids dissolves it most readily and completely. As to the cube nickel, of course it is obtained sometimes in the way discribed by Mr. Riley. The process has been made continuous, cubes of metallic nickel being drawn out at the bottom, while the top of the apparatus has been fed with the oxide of nickel. With regard to what Mr. Wills said about the carbon hardening the metal, I have no doubt for a moment that the carbon does harden it after the fashion of iron; but I have no particular experience in that direction, and I am not able to tell anything of my own experience. Then as to the quantity of ore. I do not know the extent of the resources in New Caledonia, but a great deal comes over. There are many hundreds of tons in England, at any rate, so that we may suppose that there is a considerable supply. The importers profess to be somewhat doubtful as to the extent to which the veins exist. It is uncertain how far they do extend; but if they do last, I think we may agree that it is likely to exert a very considerable influence on the metallurgy of nickel, and the mode of producing it. The whole question is a new one. I have been, to a certain extent interested in it for some time, and I thought that it might be of interest to bring these matters forward. With regard to the presence of phosphorus in the ore, I may say that several of the samples of ore which have passed through my hands have been tested for phosphoric acid with a negative result.

The CHAIRMAN: There is no question that the discovery of a new source of such a valuable material as nickel is a very great gain, and especially such a pure ore as we have in this case. Apparently, the mineral which Mr. Allen has called our attention to from New Caledonia, contains almost the largest percentage of nickel of any metal ore. It also seems to be singularly free from those metals which are usually associated with nickel ores—copper and cobalt. In view of the general use of nickel, I fancy that it is of considerable importance to know the extent of this mineral. It is quite possible for a time to get over large quantities of this substance, but afterwards it may be found that the veins from which it is obtained are not of any large extent, and therefore it will be of some consequence to know at once what quantity may be expected from that part of the world. There can be very little doubt that if a good and regular supply of nickel could be obtained it would come into very much larger use than it has yet done. It is singularly well suited for electro-plating, as Mr. Allen has pointed out. For the plating of iron and steel articles it is likely to have a very extended application; so, also, for the larger manufacture of German silver. The restricted use of nickel for these purposes has, I believe, been largely due to the difficulty of getting it in sufficient quantity, and of getting a process for its extraction which is at once paying and easy of being carried on. The processes which Mr Allen has brought before us evidently point, with this new material, to a better state of things with respect to the metallurgy of this metal, so that the nickel may come into the market, in which case nickel-plated goods will be seen and used very much more largely in future than they have been in the past. I have to ask you to return your thanks to Mr. Allen for his interesting paper, and for the trouble he has taken in bringing it before the Society this evening.

The thanks of the meeting having been given to Mr. Allen for his communication, the proceedings closed.

THE MINES OF THE PARYS MOUNTAIN, ANGLESEY.

At the meeting of the Manchester Geological Society on Tuesday the President, Mr. J. DICKINSON, H.M. Chief Inspector of Mines, occupying the chair,

Mr. T. EVANS, H.M. Inspector of Mines, read a paper on "The Mines of the Parys Mountain in Anglesey," in the course of which he said the above-named district had been rendered famous throughout the world by the enormous quantities of copper ore annually extracted from its southern slope. Its mines were in modern times first successfully opened in the year 1768, and from that time up to the present had been prosecuted without cessation. Parys Mountain might be geologically described as lying in the narrow bend of Silurian rocks traversing the Isle of Anglesey, and it consisted of five great rock masses of which its general mass was composed. These great rock masses were—first, the northern slope, consisting of slaty shale, in which occurred veins of small extent both as regarded breadth and length of quartzite and felspathic rocks, and occasional bands of greenish rock, which he thought might be correctly described as a variety of thonotite; second, a huge belt of quartz which ran from one end of the hill to the other, forming as it were its natural back-bone, and known by the miners as the Canig-y-Doll lode; third, a great mass of rock which varied considerably in colour and character in the course of its length and breadth; fourth, a band of slate of deep blue colour; and fifth, a second band of felspathic rock, very similar to the first, both as regarded character and extent, which underlay the whole of the rocky mass composing the mountain. After going into a detailed description of the structure and characteristics of the mines, Mr. Evans, in conclusion, submitted a new theory as to the formation of the mountain, and this theory he said had been forced upon him by years of toil and observation in the mines both underground and at the surface. He had long been convinced that the felstones were not intrusive, and did not owe their present form to igneous agencies. How, then, it might be asked was their presence to be accounted for? The felstone, the quartz, the metalliferous deposits were beds or veins formed by segregation, and their history might, perhaps, be correctly stated as follows. The sediment was deposited at the bottom of a Silurian opening into which flowed a stream of water containing, like the one now issuing from the mines, certain sulphates in solution. These sulphates became converted into sulphides in the presence of decaying organic matter, and the whole mass became sulphide in the form of horizontal strata of the same nature, probably, as the copper schists now worked in Germany. Another process, arising from the mutual attraction of particles of the same mineral for one another, now began and ultimately brought together the various substances previously distributed throughout the mass. Next arose the uniform regularity of the strata in their form and order of succession, which was no less characteristic of them than of the far larger analogous mines occurring in Carnarvonshire and Merionethshire, and which might possibly receive an explanation by our electricians. The only difference was that in the rocks of Carnarvonshire and Merionethshire metal ores were rarely found, and were never more than valueless things. If the theory which he had set forth were correct, then these great rock masses were no longer to be termed igneous, but ought instead to be designated huge segregated strata. He was aware that in propounding this theory he was running counter to the views of our most eminent geologists; and, having a thorough appreciation of the importance of the question, nothing but a conviction of the soundness of the views he had enunciated would have induced him to lay them before the society. He hoped the remarks he had made might be the means of directing to the subject the attention of some more skilful geologists than himself, and then he con-

fidently expected that the terms igneous, volcanic, and intrusive would cease to be applied to a single rock mass in the Silurian and Cambrian formation of Wales. After a few remarks from the Chairman, a vote of thanks was passed to Mr. Evans for his paper, and the subject dropped.

GEOLOGICAL SOCIETY OF LONDON.

Feb. 20.—HENRY CLIFTON SORBY, F.R.S. (President), in the chair.

Jas. W. Carrall, Tientsin, China; Edward Cleminshaw, M.A., F.C.S., King's School, Sherborne; Percy John Neate, Belsize Park, Hampstead; Arthur Nicols, Church-row, Hampstead; John Snell, Pydar-street, Truro; and John Spencer, Crawshaw Booth, Rawtenstall, Manchester, were elected Fellows of the Society.——J. Wm. Head, St. James's-terrace, Park Hill, Clapham, was proposed as a Fellow of the Society.——H. E. R. Bright, Cape Town, Cape of Good Hope; G. J. C. Broom, C.E., North-street, Wolverhampton; William James Farrer, Upper Brook-street; George Seamell, Great George-street; and Joseph Fletcher White, Wakefield, Yorkshire, will be ballotted for as Fellows of the Society.

The following communications were read:—

1.—"Notes on the Physical Geology of the Upper Punjab," by A. B. Wynne, F.G.S.

2.—"Description and Correlation of the Bournemouth Beds—Part I., Upper or Marine Series," by J. Starkie Gardner, F.G.S.

3.—"Notes on Certain Modes of Occurrence of Gold in Australia," by Richard Daintree, F.G.S.

The author stated that he had in a previous paper proved the occurrence of gold in the Devonian rocks of Queensland; and, further, that the auriferous tracts were certainly confined to those districts in which the Devonian rocks were penetrated by certain plutonic rocks, principally pyritous diorites. These conclusions had since been confirmed by Mr. W. C. Wilkinson and Dr. G. H. F. Ulrich; and the facts thus established are of the greatest practical importance to miners. With regard to the epoch when the auriferous pyrites was deposited in the rocks, the author expresses the opinion that most of the pyrites is contemporaneous with the consolidation of the rocks in which it occurs, although some may have been subsequently introduced by infiltration, but this is not common in Australia. A more common case is the separation of gold generally diffused through a rock into local fissures, forming strings and veins. The author thinks that all the evidence goes to show that the Australian auriferous veins were chiefly formed during the earliest era of great volcanic agitation indicated by the condition of the stratified rocks—the Devonian, but that they were enriched during a subsequent tertiary (probably Miocene) period of intense activity. No traces of auriferous veins have yet been found in any Mesozoic or Cainozoic deposits in Australia.

4.—"Notes on the Geology of the Island of Mauritius and the adjacent Islets," by W. H. T. Power, B.A.: communicated by W. Whitaker, B.A., F.G.S.

THE TELEPHONE.—An interesting discussion on the construction of telephones and practicable improvements on them took place at the Inventors' Institute, on Thursday evening (Admiral Jasper H. Selwyn, R.N., in the chair), when several important novelties in the arrangement of details were brought forward. Mr. T. W. M'Crarie exhibited samples of Bell's telephone, constructed in a cheap and effective manner, the economy resulting from making the cap with a screw, which upon being turned home causes the vibrating diaphram to be held accurately in position without further adjustment. It was explained that this was the only modification suggested, and that the instruments shown were made as usual with a round bar magnet of ¼ in. in diameter, the upper end of which is surrounded by covered wire, whose ends are connected with the transmission line. The centre of the vibrating disc being brought within one 32nd of an inch of the pole of the magnet, and the cap screwed on, the instrument is ready for use, and on Thursday evening several of them were successfully tested by the members and visitors between the lecture theatre and the lower part of the house. The experiments gave satisfaction to all present. The Chairman, in moving a vote of thanks to Mr. M'Crarie for his explanations, said that although the increased facility for adjustment which Mr. M'Crarie's arrangement offered was calculated to extend its use by making it cheaper, he felt compelled, as representing the Inventors' Institute to tell him, that the modification which he had suggested was not one which would in the slightest degree justify him in making the instruments without the license, which must be legally obtained of the original inventor. The Institute was at all times most jealous of the rights of inventors, believing that the protection of those rights was the best possible means of encouraging invention. Another invention exhibited was that of Mr. Pritchard, intended chiefly to facilitate the adaptation of telephony to the purpose of reporters and the Press. He explained that his was merely an adjunct to Bell's telephone, to enable several to receive the message simultaneously, and also to prevent distraction from external sounds. The inventor with the apparatus attached had the appearance of having been for some time in the hands of hospital dressers, after a serious railway accident or hand to hand combat in which the chief injuries had been received on the head. The surgical bandages, however, were furnished with truss pads, gas tubing, and other materials for stopping one ear and putting the other in connection with the multiplying receiver. This consists of a series of tubes so placed with regard to the receiving instruments that the sound may be distinguishable by several reporters at once. Mr. Pritchard also provides a speaking instrument on each reporter's left breast, so that in case of any word or sentence not being heard the order to repeat can be conveniently given. The Chairman, in closing the proceedings, remarked that he looked forward to the time when the telephone would be used in the servants' hall and across the Atlantic, and he believed that for use on shipboard it would, when perfected be found to be particularly valuable. Thanks having been voted to the several gentlemen who had exhibited, and to the Chairman, the proceedings terminated.

ANDREW KNOWLES AND SONS.

The ordinary general meeting of shareholders in this company was held at the Memorial Hall, Manchester, on Tuesday,—Mr. ANDREW KNOWLES, the Chairman of the company, presiding. The report of the directors stated that the total profit available for dividend was 40,566*l.* 3s. 2d., to which it was proposed to add from the reserve fund a sum of 36,462*l.* 15s. 10d., making a total of 77,028*l.* 19s., and to deal with the whole as follows:—First half-year's interest on mortgage debenture bonds, 12,343*l.* 15s.; second ditto, 12,343*l.* 15s.; one year's interest on amount paid in advance of calls, 2305*l.* 19s.; one year's interest at 5 per cent. on reserve fund, as per Articles of Association, 5435*l.* 10s.; to write off preliminary expenses, 2000*l.*; interim dividend at the rate of 10 per cent. per annum for first half year (already paid), 21,250*l.*; further dividend on second half year, making up the year's dividend to 10 per cent. on the called-up capital, 21,250*l.*; making a total sum of 77,028*l.* 19s. The reserve fund, the report added, now amounted to 79,782*l.* 13s. 8d., and has been invested, as stated in last year's report, partly in the purchase of additional property and partly as general capital in the business. The 10 per cent. dividend proposed to be paid for the past year, which, with the dividends paid in the three previous years, make up a total of 45 per cent. on the called up capital divided amongst the shareholders in four years out of the 50 per cent. contemplated to be paid in five years. This left 5 per cent. still to be paid, but the amount standing to the credit of the reserve fund was more than sufficient to pay it. After referring to the mine extensions being carried out, chiefly about Radcliffe, and to the serious accident which occurred early last year at Fogg's Colliery, Darcy Level, which entailed not only a loss of 10 lives, but a loss to the company of between 2000*l.* and 3 000*l.*, in addition to the stoppage of the pit for six months, the report concluded with the expression of the regret of the directors at the continued depression in trade; this depression had, of course, affected the profits of the concern during the past 12 months, notwithstanding that more coal had been sold than in any previous year. The report and balance-sheet were adopted, and the retiring directors re elected.

NEW SHARLSTON COLLIERIES COMPANY (Limited).—The annual report of the directors of this company has recently been issued. It states that the gross profits amount to 1988*l.*, an adverse result brought about by the bad state of trade and a strike which lasted three months. During the first six months of the year there was a loss of 248*l.*, whilst for the latter six months there was a gross profit of 4470*l.* The balance, 1988*l.*, has to be charged with interest on the mortgage debt, 4175*l.*, thus leaving 2187*l.* to carry to the debit of profit and loss account. The result of proceedings taken against the promoters of the company is that of 5500 ordinary shares held by them, 5166 have been unconditionally surrendered, leaving 334 still to be recovered. There have also been transferred to the company 194 preference shares, making a total reduction of capital of 107,200*l.* A sum of 14 8*l.* 18s. 5d. has been received from some of the promoters. The report appeals to the shareholders to raise 30,000*l.*, in order to complete a scheme with the mortgagees. Although the past year's accounts did not show a favourable result, in consequence of the strike, the directors desired it to be remembered that during the time the colliery has been in their hands the interest on the mortgage debt, which was originally 10,000*l.*, has been paid out of profits. Since the company was formed there has been a gross profit made of 36,428*l.*, out of which interest has been paid amounting to 19,980*l.*, and there has been expended on new works the sum of 46,958*l.* The collieries are situated near Wakefield.

FAST DRIVING.—The boring machinery at Carn Brea is now driving at the rate of fully 20 fms. a month, and preparations are being made for sinking with the machinery; and Capt. Teague says if they can sink as fast as they can drive, 40*l.* a ton for tin will be enough to make a profit by.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

NEATH TIN-PLATE COMPANY (Limited).—Capital 15,000*l.*, in 500*l.* shares. To acquire works at Cilfrew, parish of Cadoxton juxta Neath, and to carry on business as tin-plate and ironworkers, miners and smelters, &c. The subscribers are—Richard Rosser, Swansea, no occupation, 2; W. Gething, Crown Works, Glamorgan, tin plate manufacturer, 2; Ebenezer Gething, Aberdulais, tin mine superintendent, 1; H. Gething, Neath, commission agent; W. Rosser, Aberdulais, licensed victualler, 2; T. Hopkins, Aberdulais, 1; T. M. Richardson, Aberdulais, grocer. This company is registered without articles.

RELIANCE FUND ASSOCIATION (Limited).—Capital 25,000*l.*, in 5*l.* shares. To accumulate funds by means of periodical subscriptions, and to purchase and dispose of real or other property, &c. The subscribers (who take one share each) are—E. W. Ashort, Roby; W. M. Bell, Plumpton-street, Liverpool; W. Constable, Charlotte-street, Liverpool; T. A. Middleton, 62, Dale-street, Liverpool; H. T. Tomkinson, 84, Northgate, Chester; W. H. Brabner, Litherland Park, Liverpool; W. H. Kewley, Myrtle-street, Liverpool.

WEST OF ENGLAND AND CANADA MORTGAGE AND INVESTMENT COMPANY (Limited).—Capital 500,000*l.*, in 10*l.* shares. To invest money in property within the Dominion of Canada, &c. The subscribers (who take 25 shares each) are—W. H. Miles, Ham Green, Somerset; L. Fry, Bristol; M. R. King, 2, Redcliffe Park, Bristol; G. W. Edwards, Mayor of Bristol; T. F. Fox, Bristol; W. Smith, Bristol; C. J. Thomas, Bristol.

LAND MORTGAGE AND SAVINGS BANK (Limited).—Capital 100,000*l.*, in 2500 A shares and 2500 B shares, of 20*l.* each. To carry on a land mortgage and savings bank. The subscribers (who take one share each) are—H. L. Ethbert, 51, Westmoreland-road, Bayswater; J. W. Gray, Southampton Buildings; M. H. Summer, 1, Park place, Higher Broughton; B. Russell, 245, Brixton-road; H. Winter, 7, Gresse-street, Middlesex; G. Ryman, Durham-road, Holloway; S. S. Ellis, 17, Defoe road, N.

WILLIAMSON AND COMPANY (Limited).—Capital 6000*l.*, in 50*l.* shares. To carry on business as gunpowder manufacturers in Cheshire and Derbyshire.

HUMBER BRICK AND TILE COMPANY (Limited).—Capital 3500*l.*, in 20*l.* shares.

PATENT TUBE COMPANY (Limited).—Capital 30,000*l.*, in 5*l.* shares. To acquire the business of the late Metal Tube Company (Limited). The subscribers (who take one share each) are—J. F. Purton, Euston-road; W. Newton, 33, Gloucester-crescent, N.W.; E. L. Tarbutt, 25, Hanover-place, Kennington; J. A. Bayley, 120, Cannon-street; Alfred Waterman, 17, Gracechurch-street; W. Dundney, 28, Jewin-street; Alfred Bellacy, Brewery-road, Islington.

FAMBRIDGE FREEHOLD LAND AND BRICKMAKING COMPANY (Limited).—Capital 25,000*l.*, in 2*l.* shares. To acquire land, and carry on the business of brickmaking at Skinner's Farm, North Fambridge, Essex. The subscribers (who take one share each) are—Sir P. H. Clarke, Bart., Garrington, Ashburton, Devon; W. T. Miller, 47, Trinity-square, Southwark; John Cann, St. Day, Cornwall; E. Drury, 19, Cedar-road, Walham Green; F. H. Vandyke, 1, Winchester House, Old Broad-street; T. Bevan, 1, Salisbury lane, Bermondsey; F. M. Puzzey, 32, Loctcn street, Bow.

LA LLAVE COMPANY (Limited).—Capital 12,000*l.*, in 20*l.* shares. To acquire land in the Argentine Republic for agricultural purposes. The subscribers are—T. Oglivy, Rutford, Lancashire, 100; W. E. King, Drinkstone House, Suffolk, 100; L. Huth, Popsingworth, Sussex, 1; C. R. Van Lennep, Clapham, 10; F. M. Oglivy, Sellhurst, 100; W. A. Aiken, 7, Clifton-place, Sussex-square; C. T. McHardy, Springfield Court, Chelmsfold.

ALBERT MANUFACTURING COMPANY (Limited).—Capital 5000*l.*, in 5*l.* shares. This is a Lancashire company. The subscribers are—John Shackleton, Accrington; James Wilson Bateson, Rushton; G. Parkinson, Blackburn; B. Westall, Preston; R. C. Bateson, Rushton; C. A. Handley, Oswaldwistle; J. Sudall, Oswaldwistle; J. Noble, Oswaldwistle.

GARRETT'S PATENT YEAST COMPANY (Limited).—Capital 4000*l.*, in 10*l.* shares. To acquire a patent in connection with the manufacture of yeast.

PHŒNIX PORTLAND CEMENT COMPANY (Limited).—Capital 20,000*l.*, in 10*l.* shares. To acquire Portland cement-works at Frindsbury, Kent. The subscribers (who take one share each) are—G. O. Sanders, 34, Sloane-square, S. W.; W. G. Fuffill, Rochester; J. M'Gowan, Frindsbury, 94; G. Burge, Frindsbury; J. Adams, 391, Strand; J. Green, 14, Hill-place, Oxford-street; J. W. Lake, 5, Bell-yard, Doctor's Commons.

THE GWENNAP DISTRICT—PENSTRUTHAL.

Of the progressive mines of Cornwall this is one from which good results may certainly be looked for, and that quickly. The sett is of considerable size, laying between Old Tresavean and the Buller Mines, and near to many other great mines which have made the Gwennap district for copper ore the richest in the county. It has been said, and no doubt with truth, that there has not been found a richer mineral district in the world than the little spot embraced within a circle of 20 miles around Tresavean Mine. Penstruthal, compared with the former rich mines around, is but a new mine. Many years previous to the formation of the present company in 1872 a private company worked another part of the sett for copper ore with very profitable results, but coming upon a hard course of mundic, not then understood to be but temporary, and probably wanting funds, the working was discontinued. There is little doubt but had this mundic been penetrated the adventurers would have been rewarded by finding that the rich course of copper ore continued below it. This lode is still embraced within the present company's sett, and the shaft in it, sunk 100 fathoms, and so remains, ready to be re-worked at any time. When the present company took the mine tin was at a high price, and the Highburrow lode, on which the present company have expended about 50,000*l.*, was opened on from surface to its present depth as a tin lode. From this lode tin to the value of 15,000*l.* has been sold, an amount which would have been doubled had tin maintained its former price.

In depth, and during the past two years, the mine has been showing indications of changing from tin to copper, especially in driving east, a change which might reasonably have been expected judging from the nature of the district, and sales of copper ore have taken place every alternate month now for some time past. Several new copper lodes have been cut in the past six months in driving on a cross-course, while at the bottom level—the 72 east—only within the last week a branch of grey copper ore has been met with, a very important feature as the level approaches the junction with the killas. The shaft is down 16 fms. below the 72, and for about two months was disordered by an elvan course; this has been passed through, and it is now going down in soft white granite, which in this district especially indicates the near approach of metal, as the mine is about the depth where Tresavean and the neighbouring mines began to make riches. There is every reason to believe that Penstruthal will soon become a valuable and lasting copper mine, but for one drawback, which it is in the hands of the proprietors to remedy. The company is a limited company, and the funds are running short. The shareholders are now invited to join in raising a sum of 5000*l.* by debenture bonds, so that they may reap the benefit likely to be derived from the present promising state of the mine, and not lose all they have already expended. It is to be hoped they will come forward one and all. The amount is but 5 per cent., or 2s. per share, on each members' holding. Had the mine been on the Cost-book System there would have been no difficulty, as no body of adventurers will have objected to a 2s. call with a mine looking so promising as Penstruthal.

CHINA CLAY AND ARSENIC.—China clay creates rather less attention. Rosmellyn, 21s. 6d. f.o.b. Cornwall, in bulk, or ex store, Runcorn, 31s. 6d.; ex store, Leith, 35s. B.M., f.o.b., 30s.; ex store, Runcorn, 39s. Best white powdered arsenic, 10*l.* 10s. per ton.

INVESTMENTS AND SPECULATIONS.—The new annual edition of Mr. Alfred Thomas's "Pamphlet of Investments and Speculations," has just been issued. He remarks that the mines of England and Wales are able to show a most satisfactory state of things during the past year. It has not been given to every mine to realise the expectations that were, perhaps, too sanguinely formed, but this could hardly be looked for: it is sufficient that the majority can show a success which was above what was anticipated, and that those which have been less fortunate have failed through causes over which the management were unable to exercise control. There have been, of course, those of ephemeral existence, concering which we have so often issued our warnings, and which we should imagine could be now easily detected; these always will crop up year after year, but may be easily avoided by reference to an accredited agent, and a total disregard of the inflated reports. Mr. Thomas remarks that he last year cautioned his readers against a movement that was, at the time of publication, being made to re-introduce on the market those foreign mines that some time previously had almost monopolised public speculation, and had in almost every case been attended with the most disastrous results. Subsequent events proved that this warning was not uncalled for, and there is no doubt that had business been more brisk, and general affairs not been in so unsatisfactory a condition, the movement would have been more marked, and have even been partially successful. The chief mines now dealt in are Flagstaff and Richmond, and a considerable amount of speculative business is from time to time transacted in both. He cannot, however, refrain from repeating what he has so often written before—that he considers this to be the most dangerous of any speculation, on account of the general untrustworthiness of the information received, and the almost impossibility of investigating the merits of the reported successes. With regard to investments, he must dismiss them altogether, for he considers that there are inherent elements of failure connected with them, which necessitates their ultimate collapse, however long it may be deferred by those most interested in them. From this condemnation he, however, excludes such mines as St. John del Rey and others, which he considers above suspicion, and then goes on to consider the tin, copper, and lead mines of Great Britain. Mr. Thomas claims that most of his recommendations have been correct, and gives ample evidence in support of the claim. Altogether the pamphlet appears to have been well considered, and information is given of which all capitalists will do well to possess themselves.

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the *Mining Journal*, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina Mine.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and sharedealing than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.,
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

SOUTH ROMAN GRAVELS.—It will be remembered that the chief point of interest in this mine originally was the great Roman lode of the adjoining mine of Roman Gravels. Upwards of 1500*l.* was spent in driving the adit cross-cut towards it, and it was thought this had been driven far enough when some branches were met with, and were looked upon as the lode split up. By a late dialling of the lode at the 65, at Roman Gravels, it has by the agents of that mine now been ascertained, however, that the course of the lode in that mine would carry it some fathoms *begond* the end of the cross-cut in South Roman; and by the advice of more than one agent the directors have determined to devote their unexpended capital in continuing this cross-cut, which can be done very cheaply, as the use of the machinery will not be required. At one time the shares rose to 2*l.* 10s. each on the strength of this cross-cut, and if it should really prove that the Roman lode *is* still ahead it may yet save the mine, and repay the shareholders.

D'ERESBY CONSOLS.—In answer to several enquiries we may state that we hope to give full particulars of this mine next week. We have not sold the mine to a French company, as a correspondent stated in the Journal last week, because so many friends and clients had expressed a wish to join on the terms we had proposed for a small limited company here.

FRIDAY, MARCH 1.—The market has again been very inactive during the past week, and quotations generally are almost nominal. Van and Great Laxey shares weaker. Carn Brea, 39 to 41; Devon Great Consols, 3 to 3⅛; Dolcoath, 30 to 32; D'Eresby Mountain, 50 to 60; East Van, 1¾ to 2¼; Grogwinion, 3⅛ to 4; Great Laxey, 20 to 21; Leadhills, 3⅛ to 4; Parys Mountain, 9s. to 10s.; Penstruthal, 4s. to 6s.; Roman Gravels, 7⅛ to 8; Rookhope Lead, 19s. to 21s.; South Condurrow, 9 to 9⅛; Tankerville, 3⅛ to 4: Tincroft, 11 to 12; Van, 25 to 27⅛; West Chiverton, 14 to 15; West Pateley Bridge, 2 to 2⅛; West Tolgus, 73 to 75; Grenville, 2 to 2⅛; Peevor, 6 to 6⅛; Wye Valley, 1¼ to 2; West Wye Valley, 3⅛ to 4⅛; Chontales, 12s. to 14s.; Eberhardt and Aurora, 6⅛ to 6¾; Flagstaff, 10s. to 15s.; New Quebrada, 1⅞ to 2⅛; Pestarena, 5s. to 7s.; Richmond, 8¼ to 8¾.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has been firm, but business is still very restricted. There is a stiffening tendency in the money market, which is by no means satisfactory when trade is so dull, and there is no change in the political outlook to induce the confidence lacking among investors. The intervening fortnightly settlement disclosed a scarcity of oil companies' shares, and Tharsis were likewise found still oversold; particulars of the business done are given below. The new account for settlement March 14 has opened with a trifle more spirit. The time will come, if indeed it has not already arrived, when all those who were prompted by necessity or despair to sell their mineral securities will have sold, and the securities found their way into the hands of parties both able and resolved to await better times.

In shares of iron and coal concerns the principal feature has been a rise of 2*l.* per share on Nant-y-Glo and Blaina (preference), consequent on last week's announcement that the whole of the collieries are now let and leases of the blast furnaces being negociated for. Monklands are 6d. better, but the guaranteed preference has been sold 10s. cheaper. Bolckow, Vaughan, A, 20s.; and Scottish Australian (new), 1s. 3d.—both lower. At the meeting of Andrew Knowles and Sons (Limited) on the 26th instant a dividend of 10 per cent. per annum was declared. To pay this dividend 36,463*l.* has been taken from the reserve fund, which now stands at 79,783*l.* The report just issued by John Bagnall and Sons (Limited) shows a loss on the year of over 13,000*l.*, and as last year 15,000*l.* was lost also this clearly shows the long continued depression in the iron and coal districts of South Staffordshire. This company's works have only been producing to one-third of their capacity, and the short hours and extra cost entailed by the new legislation have also caused loss. Chapel House shares were at one time offered on a report that a fire had occurred in the mines, but this has since been contradicted, and what did happen was of no importance. The facts seem to be that the staging over one of the pits caught fire, probably from a spark from a locomotive engine, and was burned down. It was insured for considerably more than will cover the cost of re erection, and so little harm is done in the way of delay that the colliery is already in full work drawing coal to a temporary staging. Chapel House 7½ per cent. debentures are wanted; also Great Western. Andrew Knowles and Sons are at 62s. 6d. dis.; ditto (25*l.* paid), 40s. dis.; and ditto (5*l.* paid), 44½—all ex div. Bolckow, Vaughan, A, 56½ to 57; ditto, B, 36½; and ditto (pref.) 19¾. Cannock and Huntington, 10 dis. Cardiff and Swansea, 15s. to 25s. Chapel House, 55s. to 60s. Chillington, 65s. Darlaston 5 per cent. debenture, 50. Ivy House and Northwood, 10 dis. John Bagnall and Sons, 62s. 6d. Nant-y-Glo and Blaina (preference), 16 to 17. New Sharlston (preference), 75s. to 85s. Pelsall, 10½ dis. Sandwell Park, 12½. Sheepbridge, 10 dis. Spon Lane, 7 dis. Staveley, C, 82. The Horseley, 50s. dis. Thorp's Gawber Hall, 50s. to 70s. Walsall Wood, 50s. dis. West Cumberland, 7¾. West Mostyn (pref.), 25s.

Shares of foreign copper concerns firm, Tharsis having advanced ¼, ditto new, and Huntingdon each ½. At present quotations for Tharsis 10*l.* paid and 7*l.* paid shares, the latter are relatively cheaper than the former. Condes of Chili lower. Hornachos are at 11 to 13; Kapunda, 1s. 3d.; New Quebrada, 2; Panulcillo, 1¾ to 1¾; Rio Tinto, 5 per cent., 58¾; Yorke Peninsula, 4s to 5s.; and ditto, 15 per cent. (pref.), 15s. to 16s. Shares of home mines have been neglected, Glasgow Caradon at 1 for original and 13s. for new shares are unaltered. The sale of 240 tons of copper ore by this company on the 21st inst., realised 83*l.* 5s., or an average of 69s. 4½d. per ton, compared with 200 tons at 66s. 1d. last month, and is, therefore, so far satisfactory. The sales for the corresponding month for the last four years have been:—In 1877, 270 tons at 80s; in 1876, 250 tons at 95s.; in 1875, 240 tons at 98s. 2d.; and in 1874, 2 0 tons at 82s. 1d. The two sales now past of the current year have realised 149*l.* 3s., which is a decrease of 60*l.* 5s. 6d. on last year. The lode in the bottom of Court Grange Mine is said to be worth 40*l.* per fathom, and fresh and important discoveries are being opened up. Rhyd Alyn are still wanted. North Roman Gravels offered. Bampfylde are at 4s.; Cambrian, 2 to 2½; Cargoll, ¼ to 1; Commmartin, ½ to ¾; Great Laxey, 21¾; Leadhills, 3¾ to 4; Medlyn Moor, ⅝; North Laxey, ⅝ to ¾; Parys Mountain, 9s. 6d.; Rhosesmor, 1¾ to 1¾; Roman Gravels, 7¾ to 8; South Condurrow, 9½ to 9¾; Tankerville, 3¾ to 4.

In shares of gold and silver mines, Richmond have advanced 7s. 6d. per share, and the week's run is 890,000; they advise the ore body is still extending northwesterly, and looking well. The produce of St. John del Rey for first division of February is announced at 11,000 ozs., and that of Don Pedro at 2100 ozs. Port Phillip shares seem cheap if they will continue to pay 2s. per share dividends next

year. Victoria (London) is another cheap share, as the South Clunes Mine should now make larger returns, owing to the additional stamping power; the shares once touched 3l., and at present price (12s.) would yield about 13 per cent. on the last half-yearly dividend. Antioquia are at 12s.; Almada, 10s.; Chicago, 25s.; Eberhardt, 6½; Emma, 1s. 6d.; Flagstaff, 13s. 9d.; Frontino, 35s. to 40s.; Hunter Consols, 10; Javali, 6s. 6d.; Pestarena United, 4s. to 5s.; South Aurora, 3s. to 5s.; Tecoma, 7s. 6d. to 12s. 6d.

Shares of oil companies at one time advanced on the "bear" account, but have since gone easier. On the week Young's Paraffin have advanced 3s. 9d. per share, Oakbank 1s., and ditto (new) 6d., while West Calder are reduced 12s. 6d., Uphall 3s. 9d., and Dalmeny 2s. 6d. It is said the oil companies cannot sell their oil at remunerative rates, and Young's Paraffin Company have resolved to store it till next year, rather than sell at current rates, which storing is estimated to cost 1¼d. per gallon per annum. The forthcoming dividend on Young's Paraffin will, it is generally expected, be 17½ per cent., though some only look for 12½ per cent. Shares of miscellaneous companies are perfectly neglected. Birmingham Wagon offer at 19, Gloucester Wagon 10, and Milner's Safe 8. There is a good demand for shares of chemical companies, particularly Langdale's at 5, Lawes' at 7½, and Lawe's 7 per cent. (pref.) Newcastle unaltered, at 4is. 3d.

On Contango-day (Monday) the following were the rates of continuation current:—1d. on Glasgow Caradon; 1d. on Port Washington; 1d. on Huntington; 2½d. on Marbella; ½d., 1d. on Monkland Iron; 1½d. on Oakbank Oil; 3d. on Richmond; 9d. on South Condurrow.—Backwardations: 6d., 3d. on Tharsis; 6d., 9d. on Tharsis (7l. paid); even, 3d., 4½d., 6d., 7d., 9d., 1s. on Young's Paraffin. On comparing the making up prices for the undermentioned shares, fixed to-day, with those of the previous settlement, the variations shown on the account are:—Young's Paraffin have advanced 16s. 3d. per share; Uphall Oil, 7s. 6d.; Marbella, 6s.; Tharsis (new), 3s. 9d.; Huntington, Omoa and Cleland, also Tharsis, each 2s. 6d.; and Monkland, 6d. The only reductions are 7s. 6d. on Richmond and 6d. on Glasgow Carndon, while Canadian Copper, Port Washington, Monkland (pref.), Oakbank Oil, and South Condurrow are all unaltered.

BAMPFYLDE MINING COMPANY (Limited).—There is nothing new respecting this concern, which it will be remembered went into voluntary liquidation lately, but the liquidator has been instructed to carry on the necessary operations till the formation of a new company to carry on the business, which will be done as soon as possible. The mines continue to look well, and only funds are necessary for working to lead to very good results, which we hope will attend the operations of the new company.

SPON LANE COLLIERY COMPANY.—The proceedings at the third annual meeting of this company were of a cheering character. It will be remembered the company has had two serious matters to contend with—a pressure of water and monetary difficulties. By the purchase of the Littleton Colliery the first-named difficulty has been removed, and the second one overcome by the directors effecting a mortgage of 10,000l. at 5 per cent., thus obviating the necessity of making a further call, or issuing debenture or preference shares. They have not been able to strike the Thick coal in the Maiden Mine yet, owing to the extreme hardness of the rocks to be driven; but it was hoped they would be well into it in a few weeks, when the company will become a trading as well as a mining company. The directors take 500l. a-year for their services, and tried to get 1000l. for past years, but gave it up, as well they might. The shares of the concern are well held, and should have a good rise when the coal is won. Mr. J. B. Stone, who seconded the motion for the adoption of the report and balance-sheet, expressed the opinion that the present was not a good time to start in the coal trade, but we trust and think he is mistaken. It is an opinion with many sound business people that the present is an excellent time to start, for the stagnation and depression in the trade should inculcate upon beginners the necessity of limiting their expenses to the lowest possible point, which will be a valuable experience when times revive, and apparently not unworty of the attention of the Spon Lane directorate.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, Feb. 28.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro Feb. 18: Produce nine days, first division of February, 11,000 oits.=4269l.; yield 5 3 oits. per ton = 6·7 old measurement. All going on well.—[Delayed in transmission.]

— Telegram from Morro Velho, dated Rio de Janeiro, Feb. 23: Profit for the month of January, 820l.

DON PEDRO.—Capt. Vivian, Jan. 24: We have commenced opening stopes on this shoot east from Alice's West, and I am pleased to state that the lode has a very favourable appearance, and as soon as the stopes are extended sufficiently far enough we shall commence westward, or uphill on said shoot.—North Ground: The lode (as we extend operations in this direction) has a better appearance; should it become even of moderate quality this will be a great advantage, as there is a large extent of ground standing here which is high and dry, and can be taken away at little cost. All works throughout the establishment are progressing favourably.

— Telegram from Rio, dated Feb. 23: Produce cleaned up, first division of February, 2100 oits.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, $90,000 from 1100 tons of ore; week's produce of refinery, $60,000. Ore body still extending north-westerly, and looking well.

— R. Rickard, Feb. 6: During the past week work in the mine has been carried on without interruption. The 200 drift is somewhat improved; the present end is in ore and limestone. The stope above this level is still turning out good ore, but the western end is not looking so well. The 400 drift is without change since last reported on. The stopes above the 400 are looking well, the new stope started from the rise above the 400 is opening out well; we have drifted across the ore 40 ft., all the distance in good ore. The western end of the old stope is turning out good ore, and looking well. All the drifts below the 400 are without any change of importance. The winze below the 900 is down 125 ft.: sinking has been suspended; we are now timbering, and as soon as completed will resume the sinking. The furnaces are in good working order, and smelting the usual quantity of ore.

BLUE TENT.—D. T. Hughes, Feb. 2: We had quite a heavy rainfall the past week, but a large proportion of which was snow a head of ditch; had a few hours water at the head during the time it rained, but as soon as it turned to snowing, and the weather became colder, it soon gave out. We must have more rain or warm weather to give us a supply of water in our ditch. I have just returned from the ditch; there is 4 ft. of snow in the Bear Valley head of ditch, and 14 ft. on Grouse Ridge and Fordyce Valley above. The total rainfall for this season at Nevada City to date is 22·46 100th in. We washed the whole week at the South Yuba claim quite steadily, and the ground after the blasts is washing well; shall make but a short run this time, but will obtain good results I think. I intend making a partial clean-up in a few days. The surplus water above running the South Yuba we divide between the Blue Lead and Gopher, and we are using all we can obtain from the South Yuba Canal Company.

OREGON.—F. Ennis, Jan. 30: My last from Mr. Thorndike is the 25th. At that date he reports washing at Reed with two giants, and at Thoss with one giant. Ditches all right; considerable snow in mountains.

HULTAFALL.—H. Bankart, Feb. 25: The lode in the end of the level, south-west towards Perkins' trial, is worth about 4 tons of lead and (say) 5 tons of blende per fathom. I am now working on the eastern level, and it is opening out well. I think the work of sinking and driving is proceeding as rapidly as possible, and I am using every possible contrivance to avoid so much manual handling by taking everything out direct.

— W. Perkins, Feb. 23: You will be pleased to hear the trial of the water supply has proved highly satisfactory. I have given the pump two or three days trial, and have over 200 gallons of water per minute at the top of the building, a more than ample supply. I have now power enough to drive the pumps and the saw at the same time. The rest of the machinery is now fast approaching completion.

MINERAL HILL.—Feb. 2: I addressed you last on the 26th ult., since which your favour of the 12th ult. is at hand.—Queen Tunnel: The present end is slightly improved for driving. During the past month we have driven 22 ft., making the new extension 100 ft. in all. During the time engaged in driving we have carefully watched every foot of ground passed through, and although evidences of ore are abundant, and indications of the most encouraging description, still we do not come across the ore itself. We shall soon be far enough in to run out a cross-cut towards the Live Yankee and Mary Ann. I have again set the tunnel for one month to four men at $17 per ft. I notice that four men will drive almost as much as six men by working long hours. The tunnel has been very hard from its mouth, costing in some places $28 per foot.—Star Mine: We have two men still prospecting behind the Star incline, where they have broken a small quantity of good ore, with fair prospects of breaking more.—Troy Mine: The winze is down 27 ft. on the incline, which is very flat. The seam on which we started gave out about 20 ft., and a wall was struck following this for some 6 ft. We struck quartz, which showed particles of galena and specks of chloride of silver. The quartz appears to be dipping the same as the winze. We cannot say anything about the size of it, or its value to us, as we only cut it on Thursday. I put on the men who were in the Star with a view of opening it out rapidly. If it holds down its present course it will pass under the Queen Tunnel into the new ground beyond. On the western stope I have set a contract to two men to drive this level at $12 per foot. The amount of ground taken away at this point making approaches and driving to date amounts to 33 ft. We have stains of mineral every day, and hope before the contract (30 ft.) is completed we shall have cut some ore. The leases have not been yielding much during the month, owing to the fact that the leases from the company had terminated, and the ore in the various places nearly all worked out, and they had to hunt up new ground and do a good deal of dead work.

The amount of ore broken since last estimate was finished is not a great deal, scarcely worth taking into stock at present. Reviewing the work performed during the past month, although no material results have been brought about, yet a great deal of work has been performed, and, comparatively speaking, very cheaply. I will attend to your instructions, contained in your letter of Jan. 10, relative to the style of accounts you require. In September last I was instructed to keep up the old system of keeping the accounts. This I did as well as possible. I enclose with this current account, from Oct. 1 to Dec. 31, showing details of expenditure, also cost-sheet for December, giving full particulars of costs, which I hope will be satisfactory. I would call your attention to a clerical error made by me in balance of cash Oct. 31. Instead of being $348·47, as reported, it should be $358·47, a difference of $10, as shown in the current account of that month, now enclosed. I have not drawn on Mr. Oliver since Dec. 3. He was not pleased at your placing the 500l. at my order in the Bank of California, and I preferred waiting for you to make arrangements for regular remittances than draw on him again. I have not, as I have already informed you, paid the men for December yet, and that is the reason why the December cost-sheet has been behind. In future I can forward it a short time after the month has elapsed. I will forward the January cost-sheet by next mail.

— Mr. Plummer, Feb. 9: I addressed you last on the 2nd inst., enclosing cost-sheet, &c., for December, and I now enclose cost-sheet and other documents for January, as well as the following report:—Queen Tunnel: During the past week we have cut two or three vertical seams, composed of decomposed lime and quartz; it does not show any mineral, but is assisting very materially in the driving of the tunnel.—Star Mine: The men usually employed here have been at work during the week in the Troy Mine.—Troy Mine: The winze has been pushed on during the week with all dispatch, and the body of quartz (spoken of in my last) has been opened out. I am sorry to say that at present it is barren, although in the line of ore bodies, and not more than from 7 to 8 ft. deeper than the last ore-bearing quartz found in the Troy. It passes immediately under the Queen tunnel, and about the same course as the winze is, which you will see by reference to the plan forwarded some time ago. We have tapped it from the bottom of the Queen tunnel for the sake of convenience. It (the quartz) is apparently dipping from the east, whereas the Troy and Star ore bodies dip from the west. We have commenced to sink on it, and the course of our winze will be altogether changed, as we shall follow the dip of the ledge, and I trust that our efforts will be crowned with success. There is nothing special to report at the western stope.

UNITED MEXICAN.—Advices from Mr. Edward Hay, dated Guancixuato, Jan. 23: Adit of San Cayeton, and mines of San Antonio and San Cayetano de la Ovejera: Last Monday we began to work in the shaft of San Cayetano, ascertaining the firmness of its sides, and then without further delay we will proceed to raise the rubbish from the bottom. In our gradual advance on the Cuerpo del Bago, in the end of Los Angeles, we drive now on the whole breadth of the lode, which is 1½ metre; about ½ metre in the mountain to the north and 1 metre in the mountain to the south. As in this direction the intermediate space between this lode and the Cuerpo del Alto is ramified, we intend going straight on until the lower reliz of the Cuerpo del Bago be at the foot of the northern side of the end, thereby decreasing our distance from the upper lode should we have to open another cross-cut to the alto. Traces of silver continue to be found in our advance, showing that the appearance of the lode is not worse than it was formerly. Again, the water comes away in abundance, and as it continues to hold in solution a large proportion of sulphate of iron, it must be coming from the pozos and the deepest excavations in the old workings of the mine.

FRONTINO AND BOLIVIA.—The directors have not received any letters by the present mail in consequence of the great drought in the interior of New Granada having reduced the water in the river to such an extent as to render it impossible for boats to run.

ARGENTINE.—The engine at the Pique was started pumping water on Oct. 26 to reach the valves and place them in order. On Monday, Oct. 29, the stulls in the bottom of the underlay and at the mouth of the 44 north were found to have been crushed by the weight of ground above them. The cause was probably the loosening of the ground by the water, which had attained a considerable height around the lower stull. The ground falling in cut off the water from the underlay, which is raised from the bottom and run back through a level to the main or down-right shaft. The pumping pipes conveying the water were reached under the wreck of the stulls after clearing away some of the loose ground, and the water from this point secured for the reduction works. A wall was raised around the bob-pit of the Pique shaft to protect the mine from freshets. A path was also cleared to remove the water running by the ore at the mouth of the Pique shaft during freshets, as also to protect the workings in the Puntilla. All the peons living near the mines were removed to other ranches at a safe distance to prevent robberies at night. The pump in the Captain shaft was thoroughly examined and put in order. No work could be done during the month in breaking pyrites and red ore, from the scarcity of men, who had scattered to other parts during the stoppage in August and September. The men, English and native, have worked well during the month.

Reduction Works: The machinery was found in a very dirty state, and required thorough overhauling before work could be started. The condition of the stamps covers made it necessary to work tailings after concentration longer than might have been done otherwise in order to economise the ore at surface until other could be broken. Wood was sought for in San Juan to be able to keep the carpenters at other work needing their attention, but the terms asked were too high to allow of purchase there. We are now in the Quebrada of Talacasto preparing this wood for its place as rapidly as possible. From shortness of stock the iron will have to be purchased in San Juan. As soon as pyrites can be stored on the stamps floors the calciner will be started on this class of ore, which will raise the produce while the stamps are being refitted, and much increase it when all is in order. Gossany iron ore will also be worked during the coming month from the Pique and sections nearer the reduction works. During the month about 500 tons of tailings were concentrated, and the blanket sands and heads and middle heads of buddles worked in the Arrastres. No. of days stamping, 27; tons of ore stamped, 500; bullion, 204·762 ozs. troy; fineness for gold, 259; fine gold, 53·033 ozs. troy; force—natives, 35·23; English, 12·25; total, 47·48. Dr. Oxland under date January 7 reports as follows:—"In the manager section some extensive workings, in which much good ore is standing ready for breaking, were discovered by the men working there last week. The ore is in granite, thoroughly decomposed, and of good character for treatment. In the Chairman section pyrites is being broken, as also gossany iron ore found behind the lode of pyrites on the western wall of the workings going south on the line of the lode. During the past week I inspected the canas that have been sunk on the cross course, and one point was found where gossany iron ore, with much quartz can be broke immediately. A good vein of pyrites was found in a cana near the junction of the Chairman and Vaquiano sections. Samples from these points are being taken for assay and trials."

PESTARENA UNITED.—Feb. 21: District of Val Toppa: In Zero level, in the western part of the great quartz, the end south of the third cross-cut west continues to yield stones of ore. In the Intermediate level, below Zero, in the end north, the lode is much the same, about 12 in. wide, yielding low quality stuff. No. 1 level end south is yielding 8 tons per fathom, worth about 5 dwts. per ton. The drive above No. 1 level, on a branch taking in the western side, is worth 8 tons of fair quality ore per fathom. The drive in the south end of the stope, above No. 2 level, yielding 7 tons to the fathom, is worth about 7 dwts. per ton. No. 2 level end south is giving stones of ore.—Great Quartz Lode—Zero Level: No change in the rise. In the drive in north end of the ground, under No. 2 level, we have an improvement. A picked mill trial of the stuff coming from this end gave after the rate of 1 oz. 6 dwts. 4 grs. of sponge gold per ton. The lode in this drive is more than the width of the drive; an average trial will be made shortly. The lode in the new winze, north of the fourth cross-cut, in No. 2 level, is very wide, and judging from the appearance of the ore is worth about 6 dwts. per ton; we shall make a trial of this stuff shortly. In No. 3 level the rise on this lode continues the same, giving 8 tons of ore per fathom of low quality.—Flat and New Lodes—Zero Level: There is no change in the end south on the so-called caunter branch. In No. 2 level the lode in the winze near the fourth cross-cut is giving 5 tons to the fathom. In the Intermediate drive, north of the second cross cut, under No. 2 level, on the turn of the flat lode, is giving 6 tons per fathom. No change in the fourth cross-cut east, neither in the cross cut westward, in No. 5 level. The stopes, on the whole, are not looking so well.—Surface: The cold weather continues to make against picking rock from the ore at the mine.—Establishment: On the 13th inst. a landslip occurred. A large piece of the mountain, estimated at 1500 tons, falling on the water course temporarily stopped all amalgamation at Piedimulera. Much of this stuff was rock, and required blasting, but I am happy to say that it is now nearly all cleared away, and we can directly recommence milling.

District Pestarena: The various places in the mine are, with the exception of two, rather improved. The 160 end north is giving now 8 tons to the fathom, rich quality stuff, and the 100 end south 4 tons to the fathom of average ore. The lode in the bottom of the new incline shaft sinking under the 100 5 tons to the fathom. On the morning of the 19th the logging-rod connected with the pump-gear broke, but it has since been replaced by a new one.—Surface: The six new mills are working very well. The work connected with the erection of the two additional mills is progressing, and hope will be finished by the end of this month.

CAPE COPPER.—Captain Henwood, Dec. 31: Ookiep: The 92 fm. level, east from shaft, has not changed since last report. The ground is favourable for working, and we hope to push this end with good speed. The 92 fm levels from bottom of No. 23 winze have not yet intersected anything of value, but in extending the various levels as we are driving east, south, and west we hope to cut into the productive ground goue down in the bottom of the 80 fm. level. No. 26 winze has now attained a depth of 26 ft. 10 in. The first 4 fms. were sunk through rich ore ground, but the present bottom is rather poor, worth about 2 tons per fm. The 80 fm. level south, in the eastern part of the mine, has improved a little since last report, now worth 4 tons per fm. In the 80 fm. level, south east from No. 23 winze, we are driving on a small bunch that we discovered a short time ago while driving south from No. 19 winze. This end is yielding good quality copper ore—4 tons per fathom. The 80 east is in poor ground, but this driving will be continued in order to prove the ore in bottom of the 68. No. 24 winze in bottom of the 68 has been sunk through a good bunch of ore, but for the last few feet it has fallen off a little. However, this sinking has opened up the bottom of the level in this part in a very convenient manner for stoping. In the eastern extremity of the 68 we are driving a cross cut south, and the ground is of a somewhat kindly nature, and yields some good stones of ore, but we are not opening out any stoping ground in this section of the mine. In the 48 east we have nothing particular to notice, as the ground is unproductive; this driving must be pushed on with vigour to meet the new shaft. The stopes in the 80 have yielded well during the past month, but the productive ground is not showing the same width here as in the level above. The stopes in the 68 continue to yield well, and we shall have to draw heavily on them in the future.

SPECTAKEL.—Capt. Tonkin, Capt. Ninnis, Dec. 28: The level from the bottom of the winze is suspended, as the ground does not show a favourable appearance, and we consider this part of the mine to be thoroughly tried. During the month the 36 south, on the flookan course, intersected a small pocket of rich ore, but the end is now quite unproductive; however, there are still some branches of ore standing in the east side of the level, and the men are put to drive and stope to prove it. The 27 south is very poor, therefore we think it prudent to stop all operations there.

TRIAL MINES.—Capt. Tonkin, Capt. Lanksbury, Dec. 15: At Karolusberg we have suspended all operations in the bottom of the mine, and put the men to drive out cross-cuts in the adit level, but our prospects are not very encouraging. The 28 south-west at Nababeep continues to yield 2 tons of copper ore per fathom The same level north-east produced 1½ ton per fathom for the length of 18 ft., but the present end is unproductive. The 17 north from old shaft is in poor and unpromising ground, therefore the driving is suspended. At Narrap the 20 south presented an improved appearance for a short time in the past month, but it has again fallen off. At the Trial Mine, west of Ookiep, we are driving a 10 fm. level from the bottom of the shaft. The end shows a few spots of ore, but nothing of any importance.

Returns for December: Ookiep, 970 tons (the assay cannot be reported as the document which shows the return in detail has not arrived by present post.—Bills of Lading Received: 27 tons of ore per Warwick Castle, s.; 65 tons per Edinburgh Castle, s.; 65 tons per Balmoral Castle, s.; and 500 tons per Mary Bowen.—Arrivals at Swansea: The Caradoc, Dilwyn, and Ogmore.—Sales of Ore: By public tender on January 30, 480 tons, at an average of 13s. 2d. per unit; and on February 13, 520 tons, at an average of 13s. per unit.—Put Forward for Sale: By public tender on 27th instant, 570 tons of ore.

LUSITANIAN.—Feb. 19: Palhal Mine: Levels on Basto's Lode: The lode in the 200, east of Taylor's, is 5 ft. wide, composed of quartz; ore worth ½ ton per fathom. The lode in the 200, west of Taylor's, is 2½ ft. wide, of argillaceous spar, and a small branch on the north wall containing ore. The lode in the 190, east of Taylor's, is worth 2 tons of ore per fathom.—Stopes on Basto's Lode: Above the 200, east of Taylor's, the lode is worth 3 tons per fathom. Below the 200, west of Taylor's, the lode is worth 1½ ton per fathom. Below the 190, west of No. 190 winze, the lode is worth near 3 tons per fathom. Below the 190, west of No. 109 winze, the lode is worth 3 tons per fathom. Below the 190, west of No. 109 winze, mostly tramming from the stopemen. Above the 190, west of No. 100 winze, the lode is worth ½ ton per fathom. Below the 180, east of No. 107 winze, the lode is worth barely ½ ton per fathom. Above the 170, west of No. 101 winze, the lode is worth ½ ton per fathom. Above the adit, east of Pinto's shaft, the lode is worth ½ ton per fathom. Above the 190, west of Taylor's, the lode is worth 1 ton per fathom. The ore in the stope above the 190, west of Taylor's, is all worked out. Above the 28, east of No. 17 winze, the lode is worth 1 ton per fathom for lead and copper ores. Above the 90, west of No. 103 winze, the lode is worth ½ ton per fathom for copper and cobalt ores. Below the 180, west of No. 107 winze, the lode is worth ¼ ton per fathom.—Carvalhal Mine: In the north deep adit level, west of the slide, on the north lode, the lode has its regular wall, but it is in small strings, containing spots of lead and mundic. The lode in the top adit level south, on the Valley lode, is small flookan.

MINING NOTABILIA

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

KILLIFRETH.—The assertion that the West Poldice water will flow into Killifreth, and thus necessitate greater pumping power is denied; but the stoppage of Unity Wood, which lies between the two mines, has flooded West Poldice. Unity Wood was in full work before Killifreth engine was erected, yet no Killifreth water found its way to Unity Wood, as it would have done had there been any connection between these two mines. It is believed that a few shillings per share more may prove the salvation of the Killifreth property.

LLANRWST.—This property has just been examined by Capt. J. Kendall, on behalf of the company, and he gives a splendid account of the mine. In concluding his report he says—"I will remark that the mine has considerably improved since my last inspection, and the statements then made in my report have been fully verified. The character of the lode is similar to that which I have seen in proximity to large deposits of ore, and I have great reason for believing that as the mine is developed and depth attained it will still further improve. I may say that I was well pleased with the prospects of the mine at my former inspection, and I am still more so now, and am confirmed in my opinion as to its value, as of its becoming a very valuable mine."

THE WEEK.

SATURDAY, FEB. 23.—The shares of the Franco-Egyptian Bank were to-day offered at 8. In 1872 a dividend of 16 per cent. was paid, and a large quantity of shares were placed on our market at 5l. premium. They are to bearer 20l. each, with 10l. paid. The paid-up capital of the company is 1,000,000l. In 1876 a loss was made exceeding 2,000,000 of francs, and the shares dropped from 12 to 6. It was then resolved to gradually realise the assets, and with the proceeds buy up and cancel the shares. So far over 30,000 shares have been thus extinguished. To day Egyptian Preference closed at 48½, and the Unified at 24½; Russian, 1873, being 83½ to 83¾. Kapanga shares were offered at 20s., and Flagstaff at 7/8.

MONDAY.—Several important changes in foreign bonds took place. Paris buying sent up Peruvians considerably, and though the closing was far below the best both issues showed a rise of 1¼ at the finish, the 6 per cents. being then 14½, and the 5 per cents. 12¼. Russian 1873 rose to 84. The other changes were adverse, Egyptian and Turkish receding materially. The 1867 loan of the first named fell 6, and the Preference closed below 48. Turkish 1871 dropped to 29, and the Fives to 8¼. In railways both York, A, and North-Eastern closed 1 higher. Mining shares were in some request, the principal transactions taking place in Port Phillip and Colonial, Eberhardt, South Aurora, Glenroy, Parys Mountain, and Cambrian.

TUESDAY.—Continued distrust of everything appertaining to Egypt was the feature of to-day, though fresh business was a good deal checked by the necessity of "carrying over," this being the first settling-day. Franco Egyptian Bank shares were offered at 7½, and the shares of the Anglo Egyptian Banking Company fell to 9, or a little more than half the figure touched this time twelvemonth. Caledonian was a dull market, and receded to 118. In some quarters not more than 6 per cent. dividend is expected; whatever distribution, however, it is to be it will now soon be known. The Commercial Union Assurance dividend will, it is announced, be 10 per cent., making with an interim distribution 15 per cent. for the year.

WEDNESDAY.—New Zealand Kapanga shares are now at a lower figure (3/4 to 7/8) than they were four months ago, when it was doubtful whether the fresh capital required would be obtained. It is some little time since advices were received. It is from the mine, which is, perhaps, the principal cause of the fall of Port Phillip. South Aurora and Don Pedro were in demand; Tankerville, St. Harmon, and Leadhills offered. From a report issued by the board it appears the directors of the Royal Aquarium Society are desirous of issuing 30,000l. in preference shares of 5l., carrying interest at 6 per cent. The ordinary shares remain at 2⅞ to 3⅛, but should such issue be made, the chance of any interest being paid on them will be very remote.

THURSDAY.—The tendency was dull to-day, Consols being particularly weak. The following railways are now quoted ex div.: Great Northern, South Western, North Eastern, North Western, and Midland. Chillington Iron, 3⅝ to 3⅝; Ebbw Vale, 8 to 8½; Nant-y-Glo and Blaina, 17½ to 20; New Sharistone, 3¾ to 4¼; Newport Abercarn, 4 to 4¼; Chapel House, 2⅝ to 2⅞; Credit Company, A, 1 to 1¼; General Credit, 5⅞ to 6⅛; Imperial Credit, 7⅛ to 7¾; Milner's Safe, 7¾ to 8⅛; National Discount, 9⅜ to 9⅝; Otago Investment, 1⅛ to 1¼; Price's Candle, 11½ to 12.

FRIDAY (*Opening*).—There is no serious fall from last night, but the markets remain very flat. Consols are 95, sellers; Russian, 82⅝ to 82⅞; Egyptian (Pref.), 47⅛ to 47⅞; ditto Unified, 26⅞ to 27⅛; Caledonian, 16¼ to 17; North British, 85⅝ to 85⅞. The failure of the old-established banking house of Willis, Percival, and Co., engages considerable attention, and there is the usual gazing crowd opposite the building. The doors remain open to anxious enquirers, and probably as many never passed through in one morning before or during the present century. ——*Two o'clock.*—Consols are now only 94½ to 94⅞; Caledonian Deferred is 1 per cent. down (9 to 9½); Russians are now 82¼ to 82½; and Egyptian Unified, 26¼ to 26½; Devon Consols, 3 to 3¼; Glenroy, 3/8 to 7/8; Parys Mountain, 9s. to 10s.; Penstruthal, 4s. to 6s.; Chontales, 12s. to 14s.; New Quebrada, 1⅞ to 2⅛; Minera, 12 to 14; Roman Gravels, 7½ to 8; Wheal Grenville, 2 to 2¼; South Condurrow, 9 to 9½.——*Four o'clock.*—Owing to an improvement of ⅛ in Consols the markets all leave off slightly above the worst. Van shares are weak, being not better than 25 to 27. A seam of Thick coal has been struck, it is said, at the Spon Lane Colliery. Chapel House, 2⅝ to 2⅞; Newport Abercarn, 4 to 4¼; Cambrian, 2⅝ to 2⅞; Wye Valley, 1½ to 2; St. Harmon, 1¾ to 2¼; Tankerville, 3⅝ to 3⅞.

FERDINAND R. KIRK.

TYN-Y-FRON.—The cutting of the lode in the cross-cut good adds materially to the inherent and material value of these mines. It is manifest to authorities that the high crystallised and mineralised condition of the two lodes at the adit level must result in large bodies of lead ore in depth, and especially so as the veins verge diagonally and longitudinally towards each other. These junctions in length and depth are most important adjuncts in favour of the adventurers.

GREAT WHEAL RODD (Silver-Lead).—This company has just been formed, and registered with a capital of 12,000l., in 6000 shares of 2l. each, for the purchase of the leases for 21 years of a valuable piece of mineral property, situate in the parish of Northill, about five miles distant from Liskeard, and in the neighbourhood of the celebrated Wheal Mary Ann and Trelawny Silver-Lead Mines.

LEADHILLS.—The sales of lead ores for the past quarter were 600 tons, but the falling off in price ranged from 2l. 10s. to 3l. per ton. The first two dividends after the registration, in 1876, were of 5 per cent. respectively (say), 12,000l. for the year. The depreciation in price of produce must, however, of course, affect the dividend to be declared next month.

AMERICAN SUBSCRIBERS.—In reply to several enquiries, it may be stated that subscribers in the United States can be supplied with the *Mining Journal* post free, at the price of $8 50c. gold per annum, payable in advance, by remitting to Mr. D. Van Nostrand, publisher, and importer of scientific books, &c., Murray-street, New York; or, direct to our Office, 26 Fleet-street, E.C.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Feb. 26	Foxdale	95	£20 12 6	Treffrys Estate.
27	Red Rock	40	10 2 6	G. Burr.
28	Grogwinion	100	11 7 6	Walker, Parker, and Co.
	Ladywell	20	10 10 6	G. Burr.

BLACK TIN.

Date.	Mines.	Tons c. q. lb.	Price per ton.	Amount.	Purchasers.
Feb. 21	West Godolphin	10 0 2 22	£36 0 0	£361 5 0	—
25	ditto	10 0 1 14	—	360 13 6	—

COPPER ORES.

Sampled Feb. 13, and sold at Swansea, Feb. 26.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Betts Cove	120	6¼	£3 9 0	Quebrada	106	7¼	£4 7 0
ditto	100	6½	3 7 6	ditto	105	7¼	4 7 0
ditto	120	6½	3 9 0	ditto	103	7¼	4 7 0
ditto	120	6	3 7 6	ditto	102	7¼	4 7 0
ditto	120	6¼	3 9 6	ditto	84	7⅞	4 12 0
ditto	120	6¼	3 9 0	ditto	84	7⅞	4 11 0
ditto	120	6½	3 14 0	ditto	84	7⅞	4 12 0
ditto	106	6½	3 16 0	Berehaven	86	8¼	4 19 0
ditto	106	6¾	4 0 0	ditto	80	8	4 15 0
ditto	105	6¾	3 16 0	ditto	50	10	6 3 0
ditto	105	10½	6 1 6	ditto	55	10¼	6 3 0
ditto	105	10¼	6 1 0	Copper Reg.	5	20½	12 14 0
ditto	104	10¼	6 2 0	Copper Ore	4	10¾	6 1 6
ditto	120	11⅞	7 4 6				
ditto	120	12	7 5 6				

TOTAL PRODUCE.

Betts Cove	1591	£7310	10 6	Copper Regulus	5	£	63 10 0
New Quebrada	668	2964	12 0	Copper Ore	4		24 6 0
Berehaven Ore	271	1451	9 0				

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Copper Miners' Company	287	£ 1,085 12 0
P. Grenfell and Sons	290	2,047 10 0
Vivian and Sons	1216	5,664 18 0
Williams, Foster, and Co.	502	2,164 1 6
Mason and Elkington	240	828 0 0
Landore Copper Company	4	24 6 0
Total	2539	£11,814 7 6

NO SALE on March 12.

TOTALS AND AVERAGES.

	21 cwts.	Produce.	Price.	Per unit.	Standard.
Whole sale	2539	7¾	£ 4 13 0	12s. 0d.	£86 1 5

THE

SOUTH DE EREDSBY MOUNTAIN LEAD MINING COMPANY

(LIMITED).

Registered under the Companies Acts 1862 and 1867, whereby the liability of each shareholder is strictly limited to his or her shares.

Capital £30,000, in 30,000 shares of £1 each, fully paid.

DIRECTORS.

Major-General TULLOCH, 102, Lansdowne-road, Bayswater, W.
J. W. BANTOCK, Esq. F.C.S., Campbell-road, Bow, Middlesex.
FREDERICK TAMBLYN, Esq., St. Mark's-Crescent, Regent's Park, N.W.

BANKERS.

The LONDON AND SOUTH-WESTERN BANK, Fenchurch-street, London.

SOLICITOR.

ALFRED M. BRADLEY, Esq., 75, Mark-lane, E.C.

SECRETARY—Mr. J. SMITH.

REGISTERED OFFICES OF THE COMPANY.

14, QUEEN VICTORIA STREET, MANSION HOUSE, LONDON, E.C.

PROSPECTUS.

The South De Eresby Mountain Lead Mining Company (Limited) has been formed for the purpose of acquiring the lease and of fully developing an extensive and proved highly mineralised mining sett in the parish of Bettws-y-Coed, Carnarvonshire, North Wales.

The South De Eresby Mountain Mine extends over a superficial area of 51 acres, and being on a farm called Penralit, has been known locally as the Penralit sett. It is on the celebrated Gwydyr estate, and is surrounded by numerous private and public mining companies' setts. On the north-west are the Pandora, Llanrwst, White Cliffe, and Coed Mawr Pool mines; on the north, De Eresby Mountain, Clementina, and Gwaenllifion; on the east, Cwm Lanarch and Aberglyn. The south De Eresby Mountain sett is held direct from the freeholder, the Lord of the Manor, for a term of 21 years, at a royalty of 1-12th.

It is situated on the southern slope of the highly mineralised table land which separates the valley of the Llugwy on the south, from the valley of the Nant Gwydyr on the north, and which is becoming deservedly known in mining circles by the title of De Eresby Mountain.

Prior to negociating for the purchase of the property the directors have satisfied themselves of its intrinsic value, by obtaining the reports of two of the best known practical mining agents of the Llanrwst district—Captain Roberts, of the Vale of Conway Mines, and Captain Bennetts, of De Eresby Mountain and Clementina Mines. Their verbatim reports are printed herewith. By reference to them it will be seen that the situation of the mine is most convenient for cartage to and from the Bettws-y-Coed Station of the London and North-Western Railway Company. Capt. Bennetts states:—The mine, which was formerly known by the name of the farm on which it is situated, Penralit, is "One mile and a-half from Bettws-y Coed Railway Station. There is a good cart road from the mine to the station, so that the cost of carrying the ore and materials will be but a trifle compared with many other mines in this neighbourhood." This statement is corroborated by Capt. Roberts, who says:—"The road is moderately good, rendering it advantageous for the cartage of materials, &c., to and from the place of shipment." The road referred to is in constant use throughout the year for agricultural wagons and carts, and passes directly through the sett. Of the surrounding mines, the Coed Mawr Pool Mine, which forms the western boundary of South De Eresby Mountain, has been worked from the time of the Romans, and is now, and has been for many years, in the possession of a private Manchester firm of very extensive mining experience. It is in full work, and its three gigantic water-wheels, and huge heaps of debris at bank, are superficial evidence of the extent of the mining operations underground. Capts. Bennetts and Roberts both agree in the statement that the main lode of the Pool Mine bisects the South De Eresby Mountain property. This fact alone would, in the event of the lode cutting of an average value to that which it has hitherto done at the various points of intersection, suffice to assure profitable returns for the capital outlay of South De Eresby Mountain. On the east is the Cwm Lanarch Mine, "where a fine course of lead was cut in excavating for the railway." From this one lode the Cwm Lanarch Mine "sold hundreds of tons of lead; this lode also runs through the entire width of the sett from east to west.

The Great Penralit and the Cwm Lanarch lodes are two of the most important east and west lodes of the Llanrwst district. In addition to these lodes, either of which has proved rich enough to make a mining sett a good paying property, "there are four well known north and south lodes which run through the entire length of the grant—half a mile. Three of these lodes have been worked on by the tributers, who worked the mine with very considerable success many years since." They are now being worked at De Eresby Mountain Mine at a far greater depth than has been tried at South De Eresby Mountain, where the operations have been confined to shallow workings, and short levels driven into the hill side, and the result at De Eresby Mountain is indicative that the greater the depth the more valuable the lodes become.

Since the receipt of the reports of Captains Bennetts and Roberts exploring operations have been vigorously prosecuted on the South De Eresby Mountain sett. Captain Roberts in his report in October stated—"Being so little done it is impossible to speak definitely of the intrinsic value of the mine, but if analogy be any guide in giving an estimate, or in leading to conclusion, it is evident that this concern if judiciously worked is as good a speculation as but few of the new mines that are being brought before the public."

Now, Capt. Thomas Bennetts, in his report, dated Jan. 26, states that at No. 1 cross-cut at the engine shaft at the adit level in the shallow old workings (at their greatest depth only about 7 fms. down, and that only at the engine shaft) the ground is stoped away to surface, which conclusively proves the whole of the ground to have been highly mineralised. The sides of these workings are spotted with lead. In clearing the No. 2 adit level three of the north and south lodes have been intersected; of these No. 1 only has been opened on into virgin ground during the recent explorations; "it is 2 ft. wide, mixed with lead and blende worth fully 1 ton to the fathom." This No. 2 adit is about 40 fms. from the engine-shaft on the direct course of the north and south lodes. The adit has not, however, been driven more than 10 fms. from its mouth; there are, therefore, 30 fms. to be driven on all three of the north and south lodes. This work is to be taken in hand forthwith, and Capt. Bennetts states—"In driving north on these lodes we shall get under the large orey lead lodes opened on at surface, where one lode is 8 ft. wide, spotted with galena throughout." Thus, as far as the explorations have been extended Capt. Bennetts' report of facts fully corroborates the inference which Capt. Roberts so skilfully drew by analogy. The directors are confident that the driving of No. 2 adit will open up ore ground of great extent and immense value at a minimum cost, for the nature of the ground will enable the mine to drain itself without any machinery whatever. It is intended to drive a No. 3 adit, which will intersect all the known lodes at considerably greater depth, and will obviate the necessity of pumping at the engine-shaft until the mine is 50 fms. deep.

It is, therefore, evident the South De Eresby Mountain sett is exceptionally valuable.

It is highly mineralised, having six proved valuable lodes and numerous points of intersection which are well known to prove, in the generality of instances, of immense value.

It is easy of access, there being a good road ready made direct from the mine to the railway station.

It can be worked at a minimum cost, the lay of the ground being such as to obviate the necessity of steam or water pumping gear for years to come.

The directors are confident this mine will prove an immediate and a lasting success, and in their opinion the outlay of capital requisite to bring the property into a dividend paying state will consist almost entirely of the sum required to erect dressing machinery of the most approved character, and to provide such offices as may require to be added in order that the mine may be worked vigorously and satisfactorily. The only contract entered into is one between F. Tamblyn on the one part, and J. Smith, as trustee on behalf of the company, on the other part. It is dated Dec. 31, 1877, and a copy of it may be inspected at the office of the solicitor to the company. The terms are exceptionally favourable to the company, the vendor having accepted shares for the major portion of the purchase-money.

Applications for shares should be made either to the company's bankers or to the secretary, and should be accompanied with a remittance of the necessary amount—£1 per share. Specimens of ore, plans of the mine and the district, and the reports on the property may be inspected at the company's offices.

REPORTS ON THE SOUTH DE EREDSBY MOUNTAIN LEAD MINING COMPANY'S PROPERTY.

CAPT. BENNETT'S REPORT.

Clementina and De Eresby Mountain Mines, Oct. 5, 1877.

PENRALLT REPORT.—According to your wish I have been over and thoroughly examined the Penrallt Lead Mine, which is situated on the Gwydyr Estate, in the parish of Bettws-y-Coed, 1½ mile from the Bettws-y-Coed Railway Station. There is a good cart-road from the mine to the station, so that the cost of carrying the ore and materials will be but a trifle compared with many other mines in this neighbourhood. In going over the Penrallt property I find it to be a very large sett, with several find looking lead lodes passing through it. In the first place, there are four well-known north and south lodes, which run through the entire length of the grant—exactly half-a-mile. Three of these lodes have been worked on by the tributers, who worked the mine with very considerable success many years since, and thousands of pounds worth of lead were sold from the workings, which were scarcely more than open trenches in many parts, and which do not average a depth of more than 4 fathoms. These lodes have also been worked in a sett to the north of Penralit, known as Gwaenllifion. Large quantities of lead were obtained from the lodes at Gwaenllifion. These lodes are now being worked at greater depths and with greater success at the De Eresby Mountain Mine, which has proved so very rich, and is still looking as well as ever. There are also two or three east and west lodes which pass through the sett, one of which is known by the name of the Great Penrallt lode, which is looked upon by the Coed Mawr Pool Mining Company as the main lode of their mine. The Coed Mawr Pool Mine joins Penrallt on the west; it has sold many thousands of tons of lead, and is still looking well. Another of the east and west lodes is the Cwm Lanarch lode, which runs through the entire width of the sett. The Cwm Lanarch Mine is on the east of Penrallt; it has sold hundreds of tons of lead from the lode. In conclusion, I beg to say that it is my strong opinion that the Penrallt Mine properly worked with a small capital will prove itself to be a long and lasting profitable mine to the shareholders.—WILLIAM BENNETTS.

CAPTAIN ROBERTS' REPORT.

Vale of Conway Lead Mines, Llanrwst, Oct. 6, 1877.

PENRALLT LEAD MINES.—About seven years ago I inspected this mine for a gentleman who intended working it, but shortly afterwards died. On my recent visit I find that no one has done anything since that time. I have been led to wonder—since that of late years there has been such demand for mining setts in this neighbourhood—that no one has sooner applied for this, as its favourable position and its large well-defined lodes cannot fail to attract attention. It is situated in the hollow of a mountain, which is reached from the valley leading from Bettws-y-Coed to Capel Currig, and about 1½ mile from the railway station of the former village. The road is moderately good, rendering it advantageous for the cartage of materials, &c., to and from the place of shipment. On the west is the Coed Mawr Pool Mine, the main east and west lode of which runs through this grant. On the east is the Cwm Lanarch Mine, where a fine course of lead was cut in excavating for the railway, and which is now being re-worked. On the north is the De Eresby Mountain. I am strongly of opinion that the lodes of the above-named mines run through your property; but, be this as it may, I have no hesitation in saying, from what can now be seen in the outcrop of the lode and in the debris heaps from the underground operations, that I do not know a property lying idle that better deserves a trial. The large mass of sulphurous and arsenious mundic mixed with blende and galena, and also the rocks of almost solid blende, give strong indications of the lode being of great worth. Being so little done, it is impossible to speak definitely of the intrinsic value of the mine; but, if analogy be any guide in giving an estimate, or in leading to conclusion, it is evident that this concern, if judiciously worked, is as good a speculation as but few of the new mines that are being brought before the public. I should recommend the clearing out of the adit level as far as the engine-shaft, and then draining the engine-shaft by the means of a syphon-pipe thrown down the side of the hill. You would then be able to ascertain the nature and value of the lode at the deepest point; and, when you have sufficiently proved the lodes, and can go no deeper by your means of drainage, you can then put up a water-wheel for that purpose. Although in dry weather there is not sufficient water for this purpose, yet, by making reservoirs (and there are natural advantages rarely to be met with for doing so) you will be able to stock sufficient water to carry you for a considerable depth. I wish you every success that the present favourable indications promise.—JNO. ROBERTS.

CAPTAIN THOMAS BENNETTS' REPORT.

South De Eresby Mountain Mine, Llanrwst, North Wales, 26th Jan. 1878.

I beg to send you the following report of the above-named mine:—No. 1 cross-cut adit level has been cleared to No. 1 lode. We have also cleared the level on the course of the lode 20 fms.; for the greater part of this distance the ground has been stoped away to surface, which shows that the former workers must have had a good course of lead. We have also cleared the engine-shaft down to the adit level, where we find the ground has also been stoped from here to the surface, which also proves that the old workers must have had a good course of lead. The ground has also been stoped in the bottom of the level for a good length, and one of the men that worked in the engine-shaft when the mine was worked last tells me there is a good lode of lead in the bottom of the shaft worth over 1 ton of lead to the fathom. The men sunk the engine-shaft on tribute, and got fair wages. The royalty at that time was one eighth; it is now one twelfth—a third lighter—this speaks well for this part of the mine.—No. 2 Adit: We have also cleared this level, which has intersected three of the north and south lodes, all of which are well defined lodes. As yet we have only opened on one of these lodes, which is No. 1 lode. I am pleased to tell you that the lode to-day is looking well; lode 2 ft. wide, mixed with lead and blende, worth fully 1 ton to the fathom. In driving this end north towards the engine-shaft we may expect a great improvement in this lode. We shall also commence next week to drive on the other two lodes, which now present a very promising appearance. In driving north on these lodes we shall get under the large orey lead lodes opened on at surface, where one of them is 8 ft. wide, spotted with galena throughout. These three lodes are the De Eresby and Gwaenllifion lodes, which have been so productive in those mines. We are also engaged clearing No. 3 adit level, which has been driven on the Cwm Lanarch east and west lode, which lode has been, and still is, spoken very highly of in this neighbourhood. Hundreds of tons of lead have been sold from the lode at Cwm Lanarch Mine, and by the appearance of the large heaps of stuff now lying on the banks at surface which come from the drivage of this adit, and the large rocks of sulphurous mundic intermixed with lead and blende, this lode cannot, in my opinion, fail to prove eminently productive at South De Eresby Mountain. In conclusion, I beg to say South De Eresby Mountain Mine is looking well; indeed, the more I see of the mine, the better I like its prospects.—THOS. BENNETTS.

Mining Correspondence.

BRITISH MINES.

BEDFORD UNITED.—R. Goldsworthy, Feb. 22: The lode in the bottom end has been taken down, and I am pleased to say it still maintains its former size and value; worth 16l. per fathom. The lode in the winze sinking in the bottom of the 127, which is 4 fms. in advance of the 138, and where the lode has improved, is now worth 12l. per fathom; this looks well for opening a long and profitable piece of ground in the bottom of the mine. Mr. Paull has been underground with me to-day, and seems very well pleased with what we are doing, and the appearance of the mine. A full report shall be sent you next week.

— R. Goldsworthy, Wm. Phillips, Feb. 28: The lode has been taken down in the 138 east, and as far as seen is worth 16l. per fathom. The lode in the winze in the 127 east has improved since last reported, now worth 14l. per fathom; this being 5 fms. in advance of the 138 looks well for the laying open a productive and valuable piece of ore ground. The lode in the 115 east is 4 ft. wide, composed of congenial quartz, capel, mundic, and ore; worth for the latter 6l. per fathom; we expect an improvement here daily, judging from the ore ground sunk through in the winze brought down from the 103, where the lode was worth 18l. per fathom. Three stopes in the back of the 115 and two in the back of the 103 are worth on an average 9l. per fathom. The three tribute pitches are producing their usual quantity of ore. We sample to-morrow two parcels of ore, computed 125 tons.

BEITWS-Y-COED.—H. T. Haley, Feb. 25: The lode in the shaft continues of the same promising character and appearance. The lode in the 20, east of shaft, has been disordered by a slide, but it is improving in value again, and will shortly be worth as much as before. The north branch at the 20 is yielding nice lead, worth 30 cwts. per fathom. The deep adit is unproductive at present. The tribute pitches are looking well, and the men will earn good wages.

BLAEN CAELAN.—J. Pell, Feb. 27: The works are all progressing satisfactorily. The winze below the 20 continues in a splendid lode, containing beautiful spar and carbonate of lime, with copper and lead, worth fully 3 l. per fathom.

BODIDRIS.—H. Hotchkiss, Feb. 27: With the exception of an improvement in the lode in the 45 end east I have nothing new to report this week. I am of opinion we shall soon be in a good course of ore in this level, and so open up another section of ore ground.

CARON.—John Kitto, Feb. 23: The lode in the 10, driving west from the old engine-shaft, has still further improved since I last advised you, and is now worth from 20 to 25 cwts. of lead ore per fathom. There is now, to all appearance, a long run of orey ground between this point and the new engine shaft. We have turned the 10 east a little more to the north, towards the main bearing part of the lode, as I am of opinion that the productive part is standing off in that direction. The squaring and timbering of the new engine-shaft has been completed to the adit level, and we shall now immediately proceed with the same below, and hope to complete it to the 10 in two months from this date if not prevented by the water before we can get the new pumping machinery to work. The cutting of ground for wheel pit is nearly completed, and we have already purchased a complete set of pumping, drawing, and crushing machinery, which will be erected as soon as ever the buildings are ready to receive the same, and this, with fine weather, will not be long.

CLEMENTINA.—W. Bennetts, Feb. 27: There is no change in the 34 end east since last week's report. The same remark will apply to the 34 end south. As we have not taken down the lode for the last week, all being well we shall commence to drive the 34 end north to-morrow, and we may expect to get into good lead ground very soon.

COMBMARTIN.—T. Harris, T. Comer, Feb. 23: To day being our monthly pay and setting the following bargains were set:—The 28 to drive west of Harris's shaft on Harris's lode, by four men, at 5l. per fathom; the lode is about 5 feet wide, highly mineralised throughout, with a little lead, blende, and mundic—an exceedingly promising lode for an early improvement. The 15 to drive east of Harris's shaft, by four men, at 4l. per fathom the month; the lode is 3 ft. wide, yielding small seams of lead and blende—a very kindly lode, and we are looking forward for an early improvement, which may be met with any day. The adit cross-cut to drive north, by four men, at 3l. os. per fathom the month; the cross-cut has passed through a very nice channel of killas during the last fortnight for the production of lead. The killas is highly mineralised, with small strings of good lead, blende, and mundic, and which is the present character of the ground in the end. Altogether we think the prospects of the mine are looking more promising than they were a month ago.

COMBMARTIN.—J. Comer, Feb. 28: In the 28, driving west, we have just intersected Knight's cross-course. The lode is large, and carrying a great quantity of mundic and a little lead. We calculate to have about 3 fms. to drive north to intersect the lode west of the cross-course, where we hope to have a good lode, as it is near the point of intersection with the north counter lode. The other parts are without change.

COURT GRANGE.—J. G. Green, Feb. 27: Below I beg to hand you setting list of bargains, &c., for the ensuing month. The engine shaft is down 5 fathoms 4 ft. below the 65; another 5 fathoms set to nine men for the sum of 85l.; ground fair for progress, but wet and otherwise troublesome. The 65 to drive east, to four men for two months, at 110s. per fathom; lode 4 ft. wide, exceedingly hard and difficult for exploring, containing at present no mineral. The 45 to drive east, to four men for two months, at 100s. per fathom; lode small and poor, but as some good runs of ore have been wrought in the levels above, further east, I look for an improvement as we advance. We timbered and spilled through 22 fathoms to get to the end, an expensive and tedious piece of work. The 30 east has been extended during the last two months 5 fathoms, in a very congenial lode carrying strong blende, but no lead to value. I have now set the men to cross cut south, to prove the width of lode, at 150s. per fathom. The 14 has been extended during the last two months 5½ fathoms, in a very productive lode, re-set to six men, at 195s. per fathom for two months; level to be carried 6 ft. wide. The total length of ore ground recently discovered in this level is 15 fathoms, and the ore in the end is richer than at any previous point. It is necessary for a winze to be sunk here at once for ventilation, as well as proving the lead in depth. The winze in shallow adit west of shaft is down 3¾ fms., producing occasionally very rich stones of ore; re-set to four men, at 150s. per fathom. The lode is 3 ft. wide, and seems to have no underlie, so far, either north or south. Francis's shaft is down the required depth to drive out west to meet the 14, and we are now sinking for loam, lodge, &c.; set to six men, at 110s. per fathom. Surface works are progressing very well. The large wheel-pit will be completed, all but the pointing and paving, by the 9th ult., our pay-day; also crusher foundations. Carpenters are engaged preparing frames and beams. The sheds over picking-floors are all completed except the slating, and about one third of the launders for big wheel are erected. The new watercourse from head of drawing wheel to the Broginia reservoir has also been constructed during the past month. Very good progress has also been made in the construction of the large joint reservoir at Craig-y-pistyll. We have been short of water for drawing-purposes, so that the mine is very full of stuff.

CWMYSTWITH.—In Gill's upper level east we are driving by the side of the lode. The lode has not been taken down since setting day. Ground favourable for driving, and the lode carries a nice regular north wall, which looks kindly. We shall take down the lode next week. In Michell's cross-cutt, driving north by rock-drill, the ground continues just the same, but the water increasing in the end; from calculation we shall have about 9 fathoms more to drive to reach the next lode, which we hope to do in six or seven weeks from this date. In the stope in the back of Gill's upper level, east and west of winze on new lode, the lode still maintains its value; worth 1¼ ton of lead ore per fathom. The stope in the back of Michell's level west, on the new lode, is producing 12 cwts. of lead ore per fathom. The stope in the 12, over Michell's on the new lode, is worth 15 cwts. of lead ore per fathom, and still continues to lengthen eastward. The stope in the back of the intermediate level, on the new lode, has fallen off in value, and the ore ground very short; but the lode looks kindly, and we think we ought to try a little more here, as we have a great height of ground above us, and the lode is bunchy and may improve. In the stope in the back of Level Fawr, on the copper lode, the lode is large and orey throughout, yielding 10 cwts. of lead ore per fathom. The tribute pitches are without any material change, producing about their usual quantity of ore. The dressing is being proceeded with regularly, and 17½ tons of lead ore weighed into the bin during the last fortnight. We sent out yesterday samples of 33 tons of lead ore, for sale on March 12.

DE BROKE.—J. Phillips, Feb. 27: The lode in Wilson's shaft sinking below the 45 is 5 ft. wide, with a leader of blende, copper, and lead ore. The lode in the 45 east is wide, strong, and encouraging, but at present is producing only spots of lead ore. In the 45 west the improvement still holds, and the forebreast shows a good leader of lead ore. The 35 east is unproductive. On the whole the stopes are yielding ore stuff in the usual quantities and of the ordinary value. I intend on Saturday next to send out samples of 20 tons of lead ore.

D'ERESBY MOUNTAIN.—William Bennetts, Feb. 27: The lode in No. 3 adit end is 3 ft. wide, worth 1 ton of lead per fathom. The Gorse lode in No. 4 adit is still looking well, worth 3 tons of lead per fathom: we shall commence to-morrow to drive east on the large Hafna lode. We are making good progress in clearing No. 5 adit level, and hope by this day week to get through the worst part of the work.

DERWENT.—J. Morpeth, Feb. 25: During the past week the various underground bargains have undergone the least possible change.—Jeffries's Shaft—Middle Vein: The 95 east continues by the side of the vein, and the 93 west is of the same width and worth as last reported—3 ft. wide, and worth 5 cwts. of ore per fathom. The respective worth of the bargains in the back of the former level is 30, 14, 13, 13, 10, and 16 cwts. of ore per fathom, and over the latter level the respective yield of the stopes is 20, 9, 13, 14, and 15 cwts. of ore per fathom. In the cross-cut north at the 95 (where we have only two men at present) there is no change.—Sun Vein: The level west of sump continues poor; vein 1 ft. wide. East of sump the level yields 12 cwts. of ore per fathom; vein 4 ft. wide; and the stope in the back yields 26 cwts. of ore per fathom; vein 3½ ft. wide. The stope under the 40 yields 4 cwts. of ore per fathom.—Westgarth's Shaft—Middle Vein: In the 83 east we have this afternoon tapped a heavy feeder of water, and at present prevents the men from working the drill. The feeder before to-morrow morning, however, may slacken, but as I shall then see it I will write you by to-morrow's post. The two stopes in the back of the 74 west are yielding 13 and 18 cwts. of ore per fathom respectively; average width of vein about 3 ft. Pumping, drawing, and dressing all working regularly, and a good supply of water.

DEVON GREAT CONSOLS.—J. Richards, Feb. 28: Wheal Josiah: Richards's Shaft: In the 300 east the lode is 3½ ft. wide, composed of capel, quartz, and a little mundic. In the 280 west the lode is 2 ft. wide, composed of capel, quartz, a small quantity of mundic, and copper ore.—Wheal Emma: New Shaft, New South Lode: In the 190 west the lode is of large size, 7 ft. to 8 ft. wide, presenting very fine appearances, and is worth 6 tons of copper ore, 18l., and 6 tons of mundic per fathom. This drivage is now suspended to admit of top and trip plats being cut, skip-road being brought down, and other necessary work in connection therewith, preparatory to the further development of this very important and promising part of the mines. In the 175 east, and east of Gorrell's winze, the lode (4 ft. being carried) is composed of capel, quartz, and a little good quality copper ore, and produces 2 tons of mundic per fm. In the 175 west the lode is 2½ ft. wide, composed of capel, quartz, and copper ore; worth 3 tons, or 9l., and 1 ton of mundic per fathom. In the 160 east the lode is 4 ft. wide, composed of capel, quartz, and copper; worth 1 ton, or 3l., and 2 tons of mundic per fathom. In Hodge's winze in the bottom of the 160 east the lode is 5 ft. wide, composed of capel, quartz, and some good quality ore; worth 3 tons of mundic per fathom. In the 130 east the lode is 2½ ft. wide, composed of capel, quartz, and a little of both copper ore and mundic; this drivage is now suspended, and the men are put to drive north for intersection of the north part of the lode. In the 90 east, on the north part of the lode, the lode is 3 ft. wide, composed of capel, quartz, and a little of both mundic and copper ore; this drivage is suspended, and the men are engaged driving south for intersection of the south part of the lode. In the 100 east, on the south part of the lode, the lode is 4½ ft. wide, composed of capel, quartz, and copper ore; worth 3 tons, or 9l., and 5 tons of mundic per fm.

DUBBY SYKE.—W. Talientire, Feb. 22: Dubby Syke Level: The east and west vein that we are rising in is 4 ft. 3 in. wide of carbonate of barytes, and mixed with lead ore; this vein has produced some good samples of solid lead ore this week—it is the best we have met with. The rise has been very slack of air; we have put in a small machine, which forces a large quantity of air into the working, so that the men can perform good work, and we shall progress a great deal faster.

EAST CRAVEN MOOR.—D. Williams, Feb. 28: The lode in the 56, west of shaft, is 3 ft. wide, producing saving work for dressing. In the 42 west to get under the new shaft from surface the vein is 1 ft. wide, composed of spar, and intermixed with good patches of lead ore. The cross-vein in the cross-cut south in the eastern part of the mine is 3 ft. wide, and worth for lead ore 1 bing per fm. The horse-whim for drawing from the new shaft from surface will be completed next week.

EAST DARREN.—Feb. 27: In the 80, east of cross-cut, on the south lode, the lode is 1½ yard wide, yielding 15 cwts. of lead ore per fathom. In the same level west the lode is 2½ ft. wide, containing small branches of lead, out not sufficient to value. In the winze under this level the ore-bearing part of the lode has become unproductive through being disordered by a flat joint, and we have suspended sinking and placed the men to stope the bottom of the level east of winze. In the winze sinking under the 68 the lode is large and poor, and the men making good progress. The tribute pitches are without change to notice. We sampled yesterday (Tuesday) 35 tons of silver-lead ore.

EAST VAN.—W. Williams, Feb. 27: The driving of the cross-cut at the end of the 25 west has not yet resulted in any discovery, neither is there anything new in the 55 cross-cut north from Tempest shaft. This latter I have stopped. The same cross-cut south of shaft is driven 3 fms., and the last 4 ft. is in ore ground. The stuff is hardly worth saving, but we are picking the best lumps. What it will come to we cannot say as yet, and as we have been deceived so many times, I think it is best not to say much about this until we have had more extensive proof of its continuance.

GAWTON COPPER.—Geo. Rowe, G. Rowe, jun., Feb. 23: The lode in the cross-cut, south of the 82, is laid open about 9 ft. wide, of the same kindly appearance as stated in former reports, producing capel, spar, mundic, and ore, without any appearance of the south wall. The lode in the winze and stope in the bottom of the 105 east is carried 6 ft. wide, producing mundic and ore to the value of 25l. per fathom. The lode in the 117 east is 5 ft. wide, producing very strong mundic and good stones of ore. All other points in operation are without change.

GLENROY.—R. Rowe, Feb. 26: We have been getting some good stones of blende and saving stuff from the shaft since my last report. I examined the lode carefully in the bottom this afternoon, and there appears to be an improvement in the nature of the rock, and the lode coming in from the south end of the shaft. The men are making good progress, having sunk about 6 ft. for the week. The lode between the 25 and 40 is not good enough to pay for working, and I have stopped it.

GOGINAN AND LEVEL NEWYDD.—Feb. 27: At the 130, east of western shaft, the lode has been cut through, and the level is now being driven eastward on the main part, which yields good saving work for the dressing-floors. In the winze sinking below the 120 the lode contains more blende than of late, and yields at present 8 cwts. of lead ore per fathom. The lode in the pitch over the 130, east and west of shaft, is producing ½ ton of ore per fathom. In the pitch over the 120, 35 fms. west of Bryn Pica shaft, the lode is worth 8 cwts. of ore per fathom. In the pitch over the same level, 65 fms. west of Bryn Pica shaft, the lode is producing 9 cwts. of ore per fathom. The lode in the pitch over the 120, 12 fms. west of western shaft, is worth 12 cwts. of ore per fathom. The three pitches over the 100 are producing on an average 11 cwts. of ore per fathom. At surface everything is being pushed forward with full dispatch, and hope to have 48 or 50 tons of silver-lead ore ready for market by the 12th March, next sampling day.

GREAT DYLIFFE.—Evan Evans, Feb. 27: Our stopes over the 95 east, on Dyliffe lode, are this week looking much the same, worth about 1 ton per fathom, and worked by 20 men. The stopes over the 132 east and west are not quite so good as last week, worth about 10 cwts. per fathom, and worked by 14 men. In the driving on the new lode, from bottom of winze, we have to-day a nice string of lead ore in the forebreast, worth about 15 cwts. per fathom, and we expect it will be better in a few days. We have two men opening and clearing the 15, east of Llechwedd-du shaft, and we find that we shall have much ground to stope in this level in a few weeks that will do good. At the 105, east of Bradford shaft, we have six men driving east on the lode we found to the south of the old drivings by driving the cross-cut we drove last month. This end looks better since we commenced driving; the lode here splits into two branches. Our driving was on the south branch of it, but this week the other branch came in from the north, and both are productive and look very nice. The end at present is worth 25 cwts. per fathom. This is a very important piece of ore ground, because it is untouched by all the levels below this. This week we have other six men driving to the west of this cross-cut at 5l. per fathom, to open the ground to the end of that already stoped; in another month we shall stope this ground. Our stopes on the Llechwedd-du lode are much the same as when we last reported them.

— Feb. 28: We have sampled to-day 60 tons of lead ore for sale on March 7.

GREAT LAXEY.—W. H. Rowe, Feb. 26: Deep Mine: The sinking of the Welsh shaft below the 235 is making slower progress than we could wish, and we are, therefore, considering carefully how best to expedite this important work, although not at present yielding much ore; the lode in the bottom continues strong and regular. The 235 end, driving north, continues to be worth 30l. per fm. One of the stopes in the roof has improved, now worth 45l. per fathom. The 220 driving north, continues unproductive, and there now appears but little chance of much improvement until the end enters the run of ore upon the eastern branch and under the winze at present being sunk upon it from the 210, where it is satisfactory to find we are evidently near the end of the nip, and the lode resuming its former productiveness. Two stopes below this level are worth 30l. and 4l. per fm. respectively. The driving and stope south of No. 1 cross-cut are worth 30l. per fathom. The others over this level and the 200 will average 25l. per fathom.—Dumbell's: This shaft is now 5 fms. below the 215, and continuing in good ground for sinking. No change yet in the 200 end north. The 185 end north is now worth 30l. per fathom. The winze sinking about over this end from the 170 is of the same value. The lode in the 140 north is improving, and in the winze sinking below is at present worth 25l. per fathom. Nothing of consequence further met with in the 125 cross-cut, and in all probability need not be expected until driven a considerable distance further, provided the underlie continues anything like what can be seen in shallower workings. The 110 end continues poor. The rise in roof is worth 40l. per fathom. The 80 towards this run of ore has been making better progress of late. There is nothing fresh to report of the workings over the day level.—South Ground: In the 235 end, south of engine-shaft, we are cross-cutting the lode, which so far contains nothing but hard spar mixed a little with blende. We shall be able to report better of the working recently started in the 165 south when the lode on the side is further laid open. The sinking in sole of the 145 continues very fairly productive, but getting now inconveniently deep; we have carefully ascertained by dialling where to rise to meet it from the 165. No

particular change elsewhere. The cross-cut under the washing-floors having intersected several small branches or veins, we have decided upon proving each of them before cross-cutting further. The one nearest the shaft, upon which we are at present driving, promises to be the most important, and it will not be surprising, judging from its character and bearing, &c., should it prove to be the lode.

GREAT RETALLACK.—J. Harris, Feb. 25: The lode in the 53 west is improved again, the end producing good patches of blende, and worth ½ ton per fathom. No change in the other points of operation in the mine since last reported on.

GREEN HURTH.—Wm. Vipond, Feb. 21: We have begun this week to stope in the new vein, west of No. 1 cross vein; it is yielding at present about 8 cwts. of ore per fathom, and set to two men, at 35s. per fathom. The stope in the third branch, west of No. 1 cross vein, is also yielding 8 cwts. of ore per fathom. The stope in the branch, east of No. 1, is yielding 10 cwts. of ore per fathom. The stope in No. 2 cross vein has slightly improved this week: it is yielding 8 cwts. of ore per fathom. The end in the new water-way is yielding 10 cwts. of ore per fathom, and the stope above it 12 cwts. of ore per fathom. We have done nothing in the north end this week, as I have taken the two men from the branch in Fire Away, and the two who were working west, to work the ore in the sole of the adit level for the present; the lode is about 3 ft. in thickness, and as far as I can judge at present will yield about 5 tons for 1 fathom of length and the width of the vein. It will be slow work taking it out, as there is a deal of timbering to do to make it all secure.

GROGWINION.—John Kitto, Feb. 25: I have very much pleasure in being able to inform you that the winze sinking below the deep adit level is now down 8½ fms., and is still in rich ore; worth from 2 to 3 tons to the fathom for the length winze, and we have not yet met with any water to interfere with the sinking in the least degree. This is a most important feature, as it shows that the producing qualities of the lode are not diminishing, but rather increasing as greater depth is attained; this winze is on No. 3 lode. The intermediate and 56 fm. level, on No. 4 lode, have been very good during the past month, and the latter exceptionally so, and in the backs of both of those levels we have large reserves of rich ore ground laid open for stoping. There is nothing particularly new in any other part of the mine that calls for any special remark. The stopes in the various levels continue to yield a full average quantity of stuff, and we have sold since my last 100 tons of lead ore to Messrs. Nevill, Druce, and Co., at 11*l*. 7s. 6d. per ton, and sampled a similar quantity for the current month, which is for sale on the 28th instant.

HARWOOD.—W. Tallentire, Feb. 22: Herdship Level: In driving east we are intersecting large quantities of vein stones and rider; this veinstuff that we are meeting with no doubt belongs, or is connected, to a vein close at hand; the beds are irregular and dipping. The south end stope is producing about as last week—8 cwts. of lead ore per fathom. We have not quite got the stope squared out; we had more width of vein to take. We discovered some very nice solid stones of lead ore to the west side or cheek; it will all be taken down next week.

HINGSTON DOWN CONSOLS.—Thos. Richards, Feb. 18: In Bailey's shaft, in the 172 east, the prospects are still very good; the lode very large, and will produce 20*l*. worth of ore per fathom. In the 160, west of Nicholls' winze, the lode is large, of a very promising character, worth about 12*l*. per fathom. Our sampling to-morrow will be about 170 tons.

HOLMBUSH.—H. Bennett, Feb. 28: In driving the cross-cut north we have cut a large stream of water, which is daily increasing. There is every indication to expect that we shall cut something good at this point in a few days. There is no change to notice at any other point since last reported on. All the machinery is working well.

KINGSTON CONSOLS.—J. Chynoweth, Feb. 28: Fair progress has been made sinking the engine-shaft below the 40; lode 4 ft. wide, producing capital stones of lead and blende. In the 40 west the lode is 4 ft. wide, worth 4 cwts. of lead and 5 cwts. of blende per fathom. In the 30 west the lode is 6 ft. wide, composed of lead, blende, copper, quartz, &c.—a very promising lode. In the 30, driving south of west, the lode is 3 ft. wide, worth 5 cwts. of lead per fathom; on this point, 20 fms. west of engine-shaft, we have only just commenced to drive, and the lode is producing the best lead we have ever had in the mine. No doubt in my mind what it will make good in depth. In the 18 end west the lode is large, and improving in value. In the 18 end, driving south of west, the lode is 2 ft. wide, worth 5*l*. per fathom for lead and blende. This is the same lode we commenced driving on at the 30. In the stopes working throughout the mine no change to notice since my last. The three tribute pitches working for about half tribute, the men making fair wages.

KIT HILL TUNNEL.—H. Bennett, Feb. 28: South End: The lode in the western end and the winze continue much the same as when last reported. The north and south end of the Tunnel are letting out a quantity of water. No other change.

LADYWELL.—Arthur Waters, Feb. 28: The 16, south of engine-shaft, is into a nice looking lode, worth 1 ton of lead ore per fathom. This is evidently a continuation of the run of ore seen in the adit level. The winze below the adit on the said run of ore is down 3 fathoms, and the lode is worth 30 cwts. per fathom. The sinking of this winze, and stoping the ground for 5 fathoms long to the present bottom, have yielded about 25 tons of lead ore. The adit level, south of said winze, is at present in a small lode, the ground being rather hard. The new south shaft is holed to the old stope above the adit, and the men are cutting down the sides, and securing the same to the full width of the shaft. The 20 above the adit, south of this shaft, is opening tribute ground. We have this day sold 20 tons of lead ore, realising 210*l*. 10s.; the whole of this 20 tons is weighed into the bin, and will be delivered immediately. Our next sampling will take place as usual.

LIVINGSTONE CONSOLS.—Wm. Vivian, Feb. 26: We have collared up the eastern shaft. The shaftman is now putting down a footway, which I hope to have completed in a week from this time.

LLAN-GAN.—W. Michell, Feb. 28: The pitch east of old engine-shaft is still turning out nice orey stuff, and the men are getting fair wages. The pitch east of Wright's shaft is still poor, but kindly for an improvement. The water is now in fork in the engine-shaft, and the 16 in. lift delivered; we hope to commence dropping to-morrow morning, and expect to get all in full working order on Monday next. Our dressing machinery is in good repair, and working well, and the dressing is being carried on satisfactorily.

MARKE VALLEY.—Wm. George, James Stenlake, Feb. 28: Since writing our last setting report Salisbury shaftmen have been engaged in clearing and repairing the deep adit up to the old engine-shaft, which is now completed in a substantial manner, and in consequence of this nothing has been done in the 148 west. In the 40 west we continue to open on the south part of the lode, which is small, and at present unproductive, but from the course it is taking we consider this to be the leading part, and shall, therefore, continue on its course with the hope of soon meeting with something to correspond with what we had in the 50 fm. level below. In No. 1 rise in back of the 40 we are rising by the side of the lode; when last taken down it was worth 1 ton of ore per fathom. In No. 2 rise the ground has become harder than it was, and the lode in consequence has slightly fallen off in value, now worth 1½ ton of ore per fathom. In the 30 west the ground has improved, and the lode is looking very promising, yielding some good quality copper ore. In the 20 west the lode will yield 1 ton of ore per fathom, with favourable ground for driving. Fair progress is being made in the rise in the back of this level, which will yield for length carried (2 fms.) 6 tons of ore per fathom. The lode in the 10 west has been rather ill-ordered for the past fortnight, but is again getting more settled, and yielding 1 ton of ore per fathom.

MELLANEAR.—John Gilbert, Feb. 27: The lode in the 40, west of rise west of skip-shaft, is 3 ft. wide, and improved to 1¼ ton of copper ore per fathom. The stope in the back of the 67, east and west of No. 1 rise, is worth 3½ tons of ore per fathom, and is also producing some saving work for blend. The stope in the back of this level, east of No. 3 rise, is worth 4¼ tons of ore per fathom. The stope in the bottom of this level, west of the cross-course, is worth 7 tons of ore per fathom. We have put the shaftmen at the old engine to rise in the back of the 100 against the skip-shaft. We were obliged to suspend the sinking of this shaft below the 90 in consequence of an increase of water, but we hope soon to unwater the shaft and resume the sinking by a full pare of men.—Gundry's Shaft: We are making very good progress in sinking the shaft below the 90. The stope in the bottom of this level east of shaft is completed, and we have put the men to drive the 90, west of shaft, where the lode is 3 ft. wide, and worth 1½ ton of ore per fathom. The lode in the 80, west of shaft, is producing stones of copper and lead ores, but not sufficient to value, but we consider the lead to be a favourable indication. The lode in the stope in the back of this level, east of shaft, is worth 5 tons of ore per fathom. The lode in the 70, west of shaft, is worth 2¼ tons of ore per fathom. The rise in the back of this level is worth 2 tons of ore per fm. The lode in the 60 fm. level, west of shaft, is worth 4 tons of ore per fm. The lode in the winze in the bottom of this level is worth 2 tons of ore per fm. We expect to communicate this winze with the rise in the back of the 70 by the end of this week. The lode in the 50, west of rise, is still worth 6 tons of ore per fathom. The lode in the 50, east of No. 2 rise, is worth 3 tons of ore per fathom. The lode in the rise in the back of the 50 is quite as good as when last reported, being still worth 5 tons of ore per fathom.

MONYDD GORDDU.—James G. Green, Feb. 27; The winze in the end of the cross-cut below the 12 is down 10 ft., making a total depth below the level of 8 fms., at which depth it was expected to hole into a large cavity above the 24. On dialling it, however, I find that the winze is 7 fms. to the west. I have, therefore, set it to six men to sink 16 ft., for the sum of 10*l*.; ground easy. The 24 will have to be extended west to come under the same. The bottom of the winze is now in the country rock between the two lodes. No other change to notice. To-morrow is our measuring and setting day, a full report of which shall be duly forwarded to you. We are carting lead ore to the station to day.

MORFA-DU.—T. Mitchell, Feb. 23: We have let the engine-shaft to sink by nine men, the month, at 18*l*. per fathom, the men to fill and land their own stuff. The ground in the shaft continues much the same as last month

NORTH CORNWALL.—Thos. Doidge, Feb. 25: It appears that as we open upon the lode we thought was an east and west it is very likely to be another cunter lode; this is rather more favourable. The north and south lodes, as you are aware, are three. Those three lodes are about 15 ft. apart from each other; they are here in the adit three distinct lodes, but theg are so near each other that the least change in the underlie would bring them together as one lode in depth. The peculiarities are highly favourable, and I am so directing the workmen as to get further light thrown on this property. I am expecting two or three agent to inspect.

NORTH LAXEY.—R. Rowe, Feb. 26: In the 146 end south the lode is increased to 3 ft. wide, and containing a little lead and blende. In the north end the only change is that the lode is increased from 1 to 2 ft. wide, with a little more quartz coming in, but so far only poor for lead. The 84 end is without any change, and nothing is yet intersected in the 70 cross-cut. The 60 stope is not so good; present value 15 cwts. per fathom.

PARYS MOUNTAIN.—T. Mitchell, Feb. 23: The 90 cross-cut south, by six men, for the month, at 14*l*. 10s. per fathom; the ground is mixed, with small strings of sulphur, and very hard for driving. The 90, west of cross-cut, on the course of the lode, by two men, the month, at 8*l*. per fathom; the lode here is about 3 ft. wide, mixed with sulphur and copper ore, yielding about 1 ton of the latter in a fathom. We have let the stopes in the back of the 65, to three men, the month, at 14s. per ton for No. 2 ore instead of at so much per fathom. We have also let ten pitches to 23 men at the usual price. The pitches are, on the whole, looking much the same as for some time past.

PATELEY BRIDGE.—C. Williams, Feb. 28: The Rake vein, in the 30 east, is improving, at present worth 2½ cwts of lead ore per fathom—a fine-looking course of ore. The same vein, in the 30 west, is without any change since last report. The stopes and metal bargains are looking quite as well as ever, yielding lead ore in paying quantities. Dressing and smelting lead ore is being carried on regularly. I will forward you a full and detailed report next week. In the meantime, I am glad to say the mine, on the whole, is fast improving.

PENSTRUTHAL.—W. Polkinghorne, Feb. 28: In the Highburrow shaft, sinking under the 72, the footwall of the lode is keeping its regular underlay north, and the ground near it is changing to a darker hue, and mixed with spar and peach. I think in a little further sinking the lode will be quite settled. In the 72, driving east of Highburrow shaft, the lode is large, with a branch of copper ore 9 in. wide, and every appearance of further improvement, and worth for copper 5*l*. per fathom. In the 72, driving west of shaft, the lode is much the same as last reported. We are pushing on with the driving of the 48 cross-cut south as fast as possible. Our tributers are working well.

PLYNLIMMON.—J. Garland, Feb. 27: In the 36, east of Jones's winze and the same west of Herbert's winze, the lode is still poor. We have about 6 fms. of ground standing between these ends. In the 36, east of Herbert's winze, the lode maintains its yield of 1 ton of lead ore per fathom. I estimate that this end, every fathom it advances eastward, is leaving or opening out 16 tons of ore, or at the rate of 45 tons per month. This is only a low estimate. The 24 having been suspended, the men are placed to cut a plat at the 36, in the bottom of the new shaft. As we shall have large quantities of stuff to come away from this level it is necessary that this work should be done at once. The stope over the 24, east of new winze, produces about 15 cwts of lead ore per fathom. Samples of 20 tons of lead ore were issued yesterday, tenders for which are due on Tuesday next, the 5th proximo.

PRINCE OF WALES.—John Andrews, Feb. 27: There is no change in the deep adit end west of Vigra's shaft. The lode in the shallow adit end west is 1 ft. wide, yielding carbonate of iron with spot of lead and silver ore.

RED ROCK.—John Kitto, Feb. 22: We have not yet effected a communication between the 72, west of the engine-shaft, and the winze sinking below the 60, and until this is done we shall be unable to prove to any advantage the producing part of the lode at this point, as both the level and winze are being carried on in the south or unproductive part, in order to facilitate progress. I hope, however, to be able to report fully on this in my next. The 60 end east still continues in a beautiful lode, and is yielding from 20 to 25 cwts. of lead ore to the fathom, and we have commenced a stope in the roof of this level which is worth 30 cwts. of ore to the fathom. We are only carrying from 4 ft. to 5 ft. wide in the end or stope, but altogether the lode is fully 4 fms. in width. There is nothing new at the eastern shaft, or in any other part of the mine. The tribute pitches are looking quite as well as usual, and are yielding a full average quantity of ore, and we have sampled 40 tons of lead ore, for sale on the 28th instant.

ROMAN GRAVELS.—A. Waters, Feb. 28: The 106, south of flat-rod shaft, is in a wide, sparry lode, yielding stones of lead ore. There is a good lode to be seen along the bottom of the 95, a few fathoms south of the present 106 end, and the dip being north the latter end ought to be into it soon. The 106, north of this shaft, is suspended for the present, and the men are driving a cross-cut to the east lode in this level. The new south engine-shaft is being sunk, by nine men, below the 95 fm. level; present depth 13 fathoms. We are going down here on the west side of the lode, but there are signs of a change of underlie, and that the lode will come back into the shaft again as we go down. In the 95, north of flat rod shaft, the men are driving a cross cut from the present end west to prove the footwall part of the lode. In the 95, south of new engine-shaft, the lode is 5 ft. wide, worth 1 ton of lead ore per fathom. The stope in the 95, north of Titley's winze, is worth 3 tons per fathom. The stope in the 95, south of Dorricott's winze, is worth 1 ton per fathom. No. 2 stope, south of ditto, is worth 2½ tons per fathom. No. 3 stope south is worth 1½ ton per fathom. No. 1 stope, north of the new engine-shaft, is worth 2½ tons per fathom. No. 2 stope, 2 tons per fathom. The 80, south of Wilkes' winze, south of new shaft, is worth 2 tons per fathom. No. 1 stope, in the 80, south of the said winze, is worth 3 tons per fathom. No. 2 stope south is worth 2 tons per fathom. No. 3 stope south 1½ ton per fathom. No. 4 stope 1¼ ton per fathom. The stope north of the winze is worth 1 ton per fathom. The winze below the 80 south, going down in front of the 95 end, is down 8 fathoms by the side of the lode. We are driving a cross-cut in the 80, north of old shaft, from Roman lode, to cut the east lode. The 65, south of new engine-shaft, is in a lode 8 ft. wide, worth 6 tons per fathom. No. 1 stope, in back of this level, south of Stokes', is worth 2 tons per fathom. No. 2 stope south 3½ tons per fathom. No. 3 stope, south of ditto, 4 tons per fathom. The stope on the east part of the Roman lode, opposite the last-named stope, is worth 1 ton per fathom. The stope in back of the 80, north of Powell's winze, is worth 1 ton per fathom. The stope in back of the 65, north of the said winze, is worth 1 ton per fathom. The winze sinking below the 40, south of new shaft, on the Roman lode, is worth 1 ton per per fathom. No. 1 stope, in back of the 80, south of Glover's winze, on the east lode, is worth 2 tons per fathom. No 2 stope is worth 1½ ton per fathom. No. 3 stope is worth 1½ ton per fathom. We shall send off the whole of the last sale of ore this week.

ROOKHOPE.—James Blenkiron, Feb 22: Setting Report: Four men stoping over the adit level at 21s. per fathom, worth 18 cwts. of ore per fathom. Eight men stoping over the 15 fm. level branch lode, Nos. 14 and 15, east of Gin shaft, at 55s. per fathom, worth 20 cwts. of ore per fathom. Four men stoping over the 25, east of Gin shaft, also taking off side and securing ground, worth 16 cwts. of ore per fathom, working by day; could not let contract, as ore is left on the side in places, and is to clean off as work is cleared out. Four men rising east of engine-shaft, in the 42, at 40s. per fathom, worth about 10 cwts. of ore where commenced; we expect this to improve for ore as we approach the Naltrass Gill Hazel, which is about 3 fms. above the main, or 42 fm. level. Twelve men driving forward in the 42 east; set for 10 fms., at 70s. per fathom: when completed we shall commence rising a little east of rich winze, from the 25, to drain the ground of water and prove Naltrass Gill Hazel and Four fathom Limestone, where we expect to meet with some rich ore, those two bearing sections or strata being entirely maiden or whole. The 42 is driving in strong shale at present. The lode is nice and lively in the end, but not to value. We have had to stop several workings in the upper levels being filled up with stuff to dress. We hope to make better progress with dressing this month should the weather continue anything like favourable. The ground in the branch lode, near to the eastern boundary, has disappointed us very much. The ore in the stope over the drift only sets about 3 ft. in height, after which it turns extremely hard and poor—it will scarcely pay costs where standing. We shall have have to try it higher when we get work cleared out, and hope it may improve. The general appearance is considerably poorer than last month, but the ground is so changeable and fluctuating we hope for an improvement soon. I expect classifiers or sifters to get to work this week, and after which considerably more stuff can be treated. Nothing has been done towards facilitating dressing on high floors last month. I hope we shall be able to increase our ore returns this month. We are keeping costs down as much as possible.

ST. HARMON.—J. Kitto, Feb. 23: Since my last monthly report we have intersected another branch of ore in the 67 cross-cut north, and I believe we are now fairly through the lode, and we shall immediately commence to drive east on the most promising part. This cross-cut has passed through several small branches of lead ore, and I am still of opinion that when the lode becomes more compact and settled, and those branches of ore gather together, we shall meet with a good branch of lead. We are cross-cutting the lode south, both in the 67 and 35, west of the engine-shaft, but have not yet got far into it, or made any discovery to value. Fair progress is still being made in driving the 48 fm. level cross-cut, but the south lode has not yet been reached; it cannot, however, be many fathoms ahead. The stope in the roof of the 35 fathom level is looking rather better than usual, and we have commenced to sink a winze below this level in the same run of ground, which is yielding pretty good ore, and worth about 12 cwts. per fathom; should this continue to hold down we can reach the same by driving a few fathoms west from the cross-cut in the 48. The machinery is all in good working order, and we have a large heap of ore-stuff already prepared for the crushing mill.

SAINT PATRICK.—Wm. Francis, Feb. 27: The cross-course north in the 120 yard level is broken up and considerably disordered, although still possessing its full strength of character, and containing ore near the footwall side, which is firm, well defined, and has taken a direction about 15° north of west. I am now strongly inclined to think the main lode is within a few yards of the end; the driving is a little stiffer than it has been. The chert cross-cut in the 60 yard level is without alteration since last report.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, Feb. 26: The 93 end west is worth 6*l*. per fathom. The 93 east is worth 9*l*. per fathom. The 80 east is worth 10*l*. per fathom. The 70 end west is worth 10*l*. per fathom. The rise in the back of the 90 west, towards Plantation shaft, is worth 10*l*. per fathom. The rise in the back of the 60, west of King's, is worth 20*l*. per fathom. The winze in the bottom of the 50 west is worth 40*l*. per fathom. The 50 end west is worth 25*l*. per fathom. The 50 end east is looking promising to improve; the lode is now worth 8*l*. per fathom. The 40, west of engine shaft, yields a little tin. The 40 end east is suspended for the time, and the men put to sink a winze in bottom of this level, in a lode worth 20*l*. per fathom.

SOUTH CWMYSTWITH.—John Kitto, Feb 25: There has been no change of importance in any of the ends during the past month, but the stopes have continued to yield very well, and we have large heaps of good leadstuff lying broken both underground and at surface ready to be brought to the dressing floors. Immediately after my last report was sent you the further heavy floods so seriously damaged our headwear that we have since had to construct a new one higher up the river, and in consequence of this the dressing of ore had to be suspended, or a parcel would have been sold ere this. The new headwear was completed on Saturday last, and dressing operations commenced, with every prospect of being continued without further let or hindrance; and, should everything go well now, we shall have a good parcel of ore ready to sample by the end of next week.

SOUTH DE EREBY MOUNTAIN.—T. Bennetts, Feb. 28: The lode in No. 1 end is looking much more promising to-day than I have ever seen it, producing some good saving lead work. The same will apply to No. 2 lode. The lodes improve every foot driven.

SOUTH MOLTON CONSOLS.—Z. James, Feb. 28: We have commenced rising in the back of the 22, to try to meet the shoot of lead coming down on the slide dipping north. The 12 end is without change; the lode is about 20 in. wide, carrying a very good footwall, and the ground is easy for driving. The lode in the stope in this level is worth from 2 to 3 tons of lead ore per fathom.

SOUTH TOLCARNE.—W. Rich, J. Knotwell, Feb. 26: The north shaft is down for a 36 fm. level, and the men commenced to drive east on a kindly lode, yielding good stones of copper. The lode in the 24 end west is composed of fluor-spar and spots of copper. The boundary shaft is sunk 30 fathoms from surface. We have driven east about 6 ft., and are now casing and dividing the shaft preparatory to sinking below the 30, on the course of the lode.

TANKERVILLE.—A. Waters, Feb. 26: Watson's shaft is now 7½ fms. below the 192, and there is a great change in the character and dip of the country rock as compared with the ground sunk through in the last 15 fms. (say from the 180 downwards). The country in bottom of the shaft is made up of hard slatey beds dipping north-westerly, and which are of the same colour and texture as the rocks seen at the 120 and upper levels about the great runs of ore. We are of opinion that with a fine strong wide lode now opened on along the 192, east and west of shaft for about 40 fms. in length (with a strong lode still in each end) with such a lode as this I say, and seeing the change in the country rock above mentioned, we hope to find a considerable improvement in our prospects at the next or 204 fm. level. The 192 fathom level west is driven about 17 fathoms from shaft on a lode varying from 1, 2, 3 and 4 tons per fathom. We have just passed through a large cavity in this level, the sides of which show large cubes of carbonate of lime and lead ore, with some stones of blende. We have not at present cut through the lode to either of the walls, but shall do so in due course; width of lode carried in present end is 6 ft., worth 3 tons of lead ore per fathom. I shall not be surprised to see another cavity and a richer lode in this end very shortly. The 192 east is driven 23 fms., and is now 2½ fms. beyond Hooton's winze, lode in present end worth 2 tons per fathom. No. 1 stope in the 192 west is worth 2 tons per fathom, No. 2 stope 1½ ton per fathom, No. 3 stope 2 tons per fathom, there being four men in each stope. No. 1 stope in back of the 192 east is worth 1 ton per fathom, No. 2 stope 2 tons per fathom, No. 3 stope 2 tons per fathom, and No. 4 stope 2½ tons per fathom, working by 18 men. The 180, west of shaft (driven about 28 fms.), is in a lode 2½ ft. wide, worth 1 ton per fathom. The rise in this level, west of the junction, is worth 2 tons per fathom, lode very wet. The winze in the 167 west is worth about 1 ton per fathom. The 120 west, going out as a pioneer level, is in a lode 2½ ft. wide, wet, and yielding stones of lead ore. The stope in this level, just behind the end, is worth 1½ to 2 tons per fathom. The stope in the back of the 120, west of winze on south lode, is worth 1 ton per fathom. The 92, east of cross cut, on old lode, is driven on one division of the lode to the junction of the shale, and the men are now put to cross cut south to prove the other parts, and we hope to make a discovery shortly. There are eight pitches at work, by 16 men, at tributes varying from 5*l*. 10s. to 6*l*. per ton, the men getting fair wages. We have delivered 50 tons of lead ore to the Panther Company, and commenced loading the second parcel this afternoon. Since we commenced dressing the leavings with the new self-acting machinery on the lower floors, the results up to date have been as follow:—40 tons 16 cwts. of lead ore, at (say) 11*l*. 15s. per ton, 479*l*. 8s.: dressing cost on same, 27*l*. 3s. 4d.; coal for engine—44 tons, at (say) 15s. per ton—33*l*.; total cost, 60*l*. 3s. 4d.: profit on working, 419*l*. 4s. 8d. I have had quotations from two different firms for slack coal, the cost of which at Snailbeach siding would be 9s. per ton, and having gone fully into the matter, and feeling confident that 1 ton of hard rock coal like that we are using is equal to 3 tons of slack, to carry out the suggestion of the directors would involve a considerable loss to the company.

— Feb. 28: The 192 west is not looking quite so well to-day, the value of the lode being 2 tons per fathom. The falling off is caused by a small vugh, but I believe it is only temporary, and that the lode will look better again in a few feet further driving. In my letter of last night for improvement in the 120 west read "180 west." No other change to notice in the mine since my full report sent for the board meeting.

TEMPLE.—Feb. 27: A further improvement has taken place in No. 3 level; although the lead exposed is small in quantity at present, it promises soon to lead to similar results to those obtained in No. 2 level below. In No. 1 level the lode is much as last reported, with small ribs of blende; the appearance is very favourable, but as the deposit of lead discovered in the level above is dipping to the west no doubt this level must be driven further into the hill before the continuation of the ore is met with. We are preparing to lay down the rails for a tramway to convey the ore through the levels to the proposed dressing-floors.

TREBEIGH CONSOLS.—J. Gifford, Feb. 28: The 45 east has been driven 6 ft.; the lode is 2 ft. wide, producing blende and lead ore—a kindly end, and the ground easy for driving. The 45 west has been driven 4 ft.; the lode at present is small and poor, but is still letting out water freely. We have driven the cross-cut south of engine-shaft 5 fms. In the last 6 ft. we have cut water, from which I think we are getting near the branch or lode met with in the 30.

VAUGHAN.—Feb. 27: In the deep level east there is no change in the character of the lode since last reported. In the 30 east the present end is in a mass of spar, which is vughy and open, letting down the water from the level above, and hope when passed through the lode will again become productive. The two stopes at work are in a large lode very fluctuating in value, yielding at times good bunches of lead ore. The machinery is in good order, and everything progressing satisfactorily.

WEST CRAVEN MOOR.—D. Williams, Feb. 28: As predicted in my last report, the lode in the end of Blackhill adit level has further improved, being fully 5 ft. wide, filled with spar gossan, and a solid leader of lead ore 12 in. wide, worth fully 3 tons per fathom; a large stream of water is issuing from the end. The new Blackhill shaft is down 7 fms. 3 ft. below the adit, or 37 fms. 3 ft. from surface. The strong feeder of water which we have just cut in the bearing beds in the bottom of shaft prevents us sinking any deeper without pumping connections, which will be on the mine as soon as possible. The two stopes in back of level are of the same value as reported in my last. No other change to notice this week. We shall have 20 tons of clean ore at the smelt mill ready for smelting the latter end of next week.

WEST PATELEY BRIDGE.—D. Williams, Feb. 28: No. 2 Shaft: Having cleared the ore ground broken in the 20 fm. levels we have resumed driving both ends. The vein in the 20 east is 4 ft. wide, composed chiefly of gossan, spar, and solid branches of lead ore; worth 25 cwts. per fathom—promising for a further improvement. In the 20 west the vein is 3 ft. wide, worth 15 cwts. of lead ore per fathom. The stope in the back of the 20, east of shaft, is worth 1 ton of lead ore per fathom. We hope to resume sinking for a 30 on Monday next.—Craven Cross Shafts: Having re-opened and secured No. 1 shaft to a depth of about 30 fathoms from surface we have commenced clearing No. 2 shaft, which is at present in a heavy piece of soft ground requiring strong timber. We shall commence sinking a winze below the 56 to-morrow to enable us to get under and work the ore ground referred to in my last report. The vein in the forebreast is 5 ft. wide, producing saving work for dressing of good quality. On surface we have just completed the new corrugated iron building, and are putting up a new saw bench and carpenters' shops, and three new slides for grating. We are getting on well with dressing, and our machinery is working well. I shall have a parcel of pig lead for sale on Monday next.

WEST ROSKEAR.—H. Stephens, W. Bennetts, Feb. 28: The 12, driving west on cunter lode, is improving for copper, and the ground is easier for development. The orey part of the lode is about 18 in. wide, of a beautiful character, with indications for further improvement, both as to size and quality. The masons are going on well with the building of the engine-house, and, but for being hindered by the rain yesterday and to-day, they would have been up to the top of the cylinder landing by this time.

WEST TANKERVILLE.—A. Waters, Feb. 26: The 86, south of boundary shaft, is worth ¾ ton of lead ore per fathom; lode 1½ ft. wide. The stope in this level, north of the winze, is worth ¼ ton per fathom. The stope south of the winze is worth ¾ ton per fm. The 75 south is still in a twich, and not to value. The four stopes in back of this level are worth together 2 tons 15 cwts. per fathom. The stope in the back of the 63, south of shaft, is worth ¾ ton per fathom. I beg to enclose ore certificate.

— A. Waters, Feb. 23: There is no change here of note since my report sent to the board meeting this week.

WEST WYE VALLEY.—John Kitto, Feb. 22: We have made greater progress in the sinking of Brooke's shaft during the month than I anticipated, and have already got it down to the 54, and shall be ready to commence driving out on the course of the lode, both east and west of shaft, on Monday next. We have also effected a communication at the 40 between the two shafts, which has considerably improved the ventilation, and will greatly facilitate future progress, as all water and stuff will henceforth be brought through this level direct to the old engine-shaft, and thence to surface, and on to the dressing-floors. The south part of the lode intersected in the cross-cut between the two shafts at the 40, and referred to in my last report, has further improved in going west, and is now worth 25 cwts. of lead ore to the fathom. The stopes in the roof of this (40 fathom) level are looking very well, and will average, both east and west of Brooke's shaft, about 30 cwts. of ore to the fathom. The stopes in the shallower levels are looking very well at present, but these vary from day to day, and are not so regular in their yield as those referred to in the 40, but are sometimes worth 10 cwts. and at other times upwards of 2 tons of lead ore to the fathom. Dressing operations are now proceeding satisfactorily, and we shall sample 40 tons of lead ore to-morrow, and should the prospects of the mine continue as at present we shall sell at least a similar quantity for next month.

WHEAL CREBOR.—John Andrews, Feb. 28: The following was our setting on Saturday. To drive the 120 end east by four men, at 7*l*. 10s. per fathom; the lode in the end is 3 ft. wide, worth 6*l*. per fathom. No. 1 stope in back of the 120 by six men, at 4*l*. 5s. per fathom; the lode in this stope has improved, and is now 5 ft. wide, worth 18*l*. per fathom. No. 2 stope in back of the same level by six men, at 3*l*. 10s. per fathom; the lode here has declined in value, and is now 3 ft. wide, worth 10*l*. per fathom. To drive the 108 east by two men, at 7*l*. 10s. per fathom; lode 9 in. wide, yielding some good mundic, but is poor for copper. To drive the 72 east by two men, at 5*l*. per fathom; lode 5 ft. wide, composed chiefly of quartz and capel. To drive the 48 east by two men, at 7*l*. per fathom; lode 15 in. wide, composed of quartz, capel, and mundic. To sink the new shaft below the surface by nine men, at 14*l*. per fathom.

WHEAL KITTY (St. Agnes).—S. Davey, R. Harris, Feb. 23: New Shaft—Pryor's Lode: In the 154, driving west of shaft, the lode is presenting a good appearance, and carrying a small leader of tin on both the hanging and foot walls, with small lases or strings interspersed throughout, and from present appearances we hope soon to report a good lode at this point, now worth for tin 7*l*. per fathom. The lode in the 142, driving west of shaft, is 5 ft. wide, and worth for tin 7*l*. per fathom. The lode in the rise in back of the 142, west of shaft, is worth for tin 7*l*. per fathom. The lode in the 142, driving east of shaft, is worth for tin 8*l*. per fm. The lode in the 106, driving west of shaft, is producing saving work for the stamps. The lode in the 94, driving west of the shaft, is 4½ ft. wide, and worth for tin 10*l*. per fathom. The lode in the 65, driving west of the shaft, is 2 ft. wide, and worth for tin 5*l*. per fathom.—Old Lode: In the 100 fm. level, driving west of the engine-shaft, no lode has been taken up since our last report. The lode in the 90, east of engine-shaft, is worth for tin 8*l*. per fathom.

WHEAL GRENVILLE.—T. Hodge, Feb. 27: I see no change whatever in either of the bargains since my last. Goold's engine gives entire satisfaction, and when we communicate the 150 it will keep the mine drained with ease.

WHEAL NEWTON.—H. Bennett, Feb. 28: Since my last report we have cut a good lode of silver ore in the back of the 44, east of the engine-shaft, which is looking well; some rich stones have been sent to London. This I consider to be a very important point, being 70 fathoms west of where we have the rich lode east of Cook's, and deeper than any point hitherto productive. The stope in the back of the 40, east of Cook's, is looking well; the lode is from 2 to 3 ft. wide, yielding some very rich silver ore. We have just holed a rise in the back of the 40, east of Cook's, to the winze in the bottom of the 30, where we have also met with a good branch of silver. I have put men to open out the lode in the side of the 30, east of Cook's, over the rich stope in the back of the 40, and hope in the course of a few days to meet with a good lode. All other points are without change. I am pleased to say the mine continues to look well for silver. I hope soon to be able to resume the sinking of Hampton's shaft, which will be a very important point in the future of this mine going down near the large cross-course. There is no doubt as soon as we reach the junction of the Harrow Barrow and the silver lode near the cross course we shall find a very rich lode.

WYE VALLEY.—J. Kitto, Feb. 22: We have resumed the sinking of Tippett's shaft below the adit level in a very strong and kindly lode, which is yielding good lumps of ore, but so far it is interspersed through the lode, and has not yet formed itself into a regular leader, but I expect, judging from the character of the lode, to find it in a more compact and condensed form as we get deeper. The 22 is now within about 10 fathoms of the run of ground that yielded some good stones of ore in the adit level, and I expect the lode will further improve as the driving is advanced. In stripping down the lode by the side of this level, a few fathoms behind the end, we have some very good lead and blende, and the winze sinking below this level is in very good ore, but here we are much troubled with water, and shall be, no doubt, until the 46 has been further extended in this direction. The lode in the 46, driving east of shaft, is more kindly in appearance than previously reported, and occasionally yields a little ore, but the same level west continues without change. The machinery is all in good working condition, and since my last report we have sold 25 tons of lead ore and 40 tons of blende.

MINERALS OF THE WESTERN STATES.—In San Francisco the mineral wealth of some of the undeveloped States and Territories is just now receiving considerable attention. The wealth of the Washington Territory in coal is, it is said, about being utilised still more, and the construction of a railway to the Payallup fields will greatly facilitate development. At Coos Bay a new mine is about to be worked, and attention is again being directed to the Lone, whilst abundance of good quality coal has been discovered in Vallejo, as well as in Fresno county. The quicksilver resources are also being well developed, and fresh discoveries have been made in Nevada. The output was 80,000 flasks, of which three-fourths was exported, and the remaining one-fourth used in Nevada. The manufacture of California salt constantly increases, as does the yield of it at Carmen Island. The shipments of lead and silver-lead from San Francisco have exceeded anything previously known

in the history of the coast, but still Omaha threatens to undersell California. The yield of copper was about the same as in 1876. In its gold and silver product Nevada falls a little short as compared with the preceding year, but there has been a notable increase in other States. In Oregon silver-mud is reported to have been discovered, and Colorado will show a heavy increase. California produces 3,655,000*l.*, whilst Arizona is rapidly attaining a position equal to Nevada. The Silver King is among the richest mines in the world, and large numbers of miners have migrated to the Territory during the year. Pieces of pure silver 1200 lbs. to 1400 lbs. in weight, and even much larger, have been taken out of some of the Arizona mines. The Silver King, the Idlewild, and the Ortega are probably the foremost, but there are others of very great promise. Gold has been discovered in the Santa Rita mountains, and no doubt is entertained that altogether Arizona will become one of the richest mining regions in the world.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MARCH 1, 1878.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	2 11 0-	—
,, Scotch, all No. 1 ...	2 12 6-	3 10 0
Bars, Welsh, f.o.b. Wales	5 5 0-	5 10 0
,, ,, in London.	5 15 0-	6 0 0
,, Stafford., ,, .	7 0 0-	8 0 0
,, in Tyne or Tees ...	5 10 0-	5 15 0
,, Swedish, London ..	9 15 0-10	0 0
Rails, Welsh, at works..	5 0 0-	5 2 6
Sheets, Staff., in London	8 15 0-	9 0 0
Plates, ship., in London	7 0 0-	7 5 0
Hoops, Staff.	7 15 0-	8 0 0
Nail rods, Staff. in Lon.	6 10 0-	7 0 0
STEEL.		
English, spring 14	0 0-19	0 0
,, cast 30	0 0-40	0 0
Swedish, keg.....16	0 0-	—
,, fag. ham. 17	0 0-	—
LEAD.		
English, pig, common . 18	5 0 18	7 6
,, ,, L.B.....18	7 6-	—
,, ,, W.B. 18	15 0-	—
,, sheet and bar..19	7 6-	—
,, pipe.....20	0 0-	—
,, red 22	0 0-22	10 0
,, white 27	5 0-28	0 0
,, patent shot .. 23	10 0-	—
Spanish 17	17 6 18	0 0
NICKEL.		
Metal, per cwt. 18	0 0-20	0 0
Ore, 10 per cent. per ton.24	0 0-26	0 0
QUICKSILVER.		
Flasks of 75 lbs., ware. 7	2 6-	—
SPELTER.		
Silesian..... ,, 18	15 0- 18	17 6
English, Swansea 21	0 0-	—
Sheet zinc 22	0 0- 23	10 0

TIN.	£ s. d.	£ s. d
English, ingot, f.o.b...	67 0 0-	—
,, bars ,, ...	68 0 0-	—
,, refined.....	70 0 0-	—
Australian	63 15 0-	—
Banca	66 0 0-	—
Straits	63 15 0-	—
COPPER.		
Tough cake and ingot.	69 0 0-	69 10 0
Best selected	72 0 0-	72 10 0
Sheets and sheathing.	74 10 0-	75 0 0
Flat Bottoms	78 0 0-	—
Wallaroo	76 0 0-	(nom.)
Burra, or P.C.C.	73 10 0-	nom.)
Other brands	70 0 0-	—
Chili bars, g.o.b..nom.	65 0 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£112	0 0
Other alloys	£120 0 0-	140 0 0
BRASS.		
Wire	8½d.-	—
Tubes.....	10¾	— —
Sheets	9⅛	— —
Yel. met. sheath. & sheets.	6¼	- 6½d.
Nails composition.....	8¾	- 9
TIN-PLATES.*	per box.	
Charcoal, 1st quality ...	1 0 0-	1 1 0
,, 2nd quality ...	0 19 6-	1 0 0
Coke, 1st quality	0 18 0-	—
,, 2nd quality	0 17 0-	—
Black .....per ton	16 0 0-	16 10 0
Canada, Staff. or Gla., at Liverpool	11 10 0-	12 0 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The depreciation which has already occurred in metals does not appear sufficient to produce renewed activity in our markets. There is, however, a considerable amount of business being transacted, as a reference to shipments and deliveries and general statistics will prove. Yet it is below the average and greatly divided, and in great part forced and very unremunerative, and not of that sound and legitimate character which is calculated to inspire confidence and give stability to prices, or that is likely to tend to the elevation of quotations. The tendency of the market continues unfavourable, but the comparatively moderate prices now ruling naturally reduce the margin for a fall; nevertheless it is only by the prevalence of cheap rates that we can look for a steadily increasing consumption at home and an expansion of our colonial and foreign trade. To attempt to advance prices, therefore, at the present time would be very imprudent; and anyone operating with a view to an immediate rise will in all probability be mistaken and grievously disappointed, and find the venture more expensive than profitable. Hitherto holders have reaped no advantage whatever by retaining their stocks, as consumption has been diminishing, while production has been maintained; consequently stocks have been continually accumulating, and have now become excessive, and were it not for the existing cheap and easy facilities of finance there would be more urgent realisations, and in proportion to the pressure to sell, a corresponding decline in value. As it is, the retention of stocks has unquestionably proved a failure in the past, for prices have gradually sunk to a lower level; and it may well be asked what is there in the present uncertain and critical state of affairs to warrant and encourage holders to persevere in the same destructive course? It is no sudden calamity that has overtaken our markets that can be speedily remedied, or from which we can be extricated by any special or extraordinary application; the evils are too great and numerous, and far from being exhausted, to imagine that they can be lightly treated or overcome. Besides, they appear rather to spread and multiply, and to be leading on to a worse stage than any previously experienced.

It will undoubtedly require much time before any general resuscitation in trade can possibly take place, and unless supplies should be materially reduced, of which there is little or no prospect, prices cannot improve, and it is extremely doubtful whether they can be much longer maintained where they now are. A short time ago many merchants thought prices had reached their minimum, and they bought and shipped pretty freely; the result is that several of the foreign markets are over-supplied, and sales can only be effected at a positive loss on cost price, and a short interval is necessary to enable the markets to get relieved and recover from their depression. Lower prices are needed to stimulate demand, as our markets are as much over-loaded, and perhaps even more so, of certain metals than others places, and the only effectual way of lightening them is to excite an additional demand by offering unusual inducements in the way of prices to consumers. Manufacturers have had hard times to contend with, and their difficulties would present and make them reluctant to be burdened with any increase to unsaleable stocks; but if sellers will sell the raw material cheaply to the manufacturers they could then supply the manufactured article to needy consumers at a cheaper rate, and this is what must be done if more business is wanted. The present condition of affair is as gloomy and unsatisfactory as can well be imagined; but the future is not less dismal, for it is full of peril and danger and unknown difficulties, and every provision ought to be speedily made against coming events, for the burden will have to be borne, and it will fall heavily upon those who are unprepared for it. Our commerce in Eastern Europe has at least been temporarily deranged by the war, but it may be in danger of being permanently sacrificed if Englishmen remain so blind and negligent of their own interests and security as to allow Turkey in Europe and Asia to pass into the hands of Russia, or allow it to remain under her dominion for any length of time, for in that case it is not unlikely that our merchandise might be excluded altogether from these ports either by establishing a prohibitive tariff, or by an inhibition of some other kind. Our interests are most seriously jeopardised by our continued inaction, and they will be wholly forfeited unless England immediately adopts effective means of defence against the encroachments and exactions of Russia. Secret alliances between nations are invariably detrimental to those outside the compact, and it is for that reason that secresy is observed; if there were no injury or offence intended to others there would be nothing to be concealed or to be ashamed of, or any occasion for secresy at all; but the fact of Russia and Turkey withholding the terms of settlement from the other European powers evidently arises from some sinister motive, and, not without just grounds, causes the gravest apprehensions and suspicion.

In the event of an alliance (offensive and defensive) being formed between Russia and Turkey what a pretty fix we should be in. Holy Russia might keep her sacred vow in not sending any of her troops to Gallipoli, but the Turkish force there is quite enough to turn the guns upon us, and we might protest as much as we liked, but alas! too late. By the excessive leniency displayed towards Russia, and the manifest dislike to encourage the Ottoman power to resist, our country has given an opportunity to Russia which she has not failed to seize and turn to her own advantage, and according to her own declarations will not relinquish without a struggle. She has effaced the Crimean campaign, for everything she wanted then she accomplished now, and all the good we did at that time has now been undone. Oh, that we had the spirit of a Palmerston ruling in our Foreign Office, there would then be an end to all timidity, hesitation, and irresolution, and the country would know that there was no fear of our being hoodwinked and humbugged any longer, and as the champion of right against might, we should at once advance to that position which would give us power to enforce just and honourable terms, and to ensure the future srfety of British commerce; but we look in vain for that bold and spirited policy which exalted England, and made us respected above other nations. Europe does not even yet know the terms of peace demanded by Russia, and a greater mark of disrespect and insincerity could not be offered; but if the province of Bulgaria is to be hypothecated to Russia, and that province is to remain under Russian control, and if the acquisition of any part of the resources of Egypt are also insisted upon to make up a guaranteed fund for the payment of the indemnity, then we do not hesitate to say that such conditions will not be acceptable to one at least of the Great Powers. With such a programme to discuss the Conference will be a farce.

COPPER.—Sales of Chili bars have been made this week at reduced prices, and it is reported that 65*l.* cash has been accepted. The fall in price as yet is but slight, and it has been very slowly coming, for it has long been evident that the price of Chili bars was absurdly high, and it was merely a question of time as to when they would give way. The present sellers have reason to congratulate themselves that they have been enabled, while others are sleeping, to realise so well, for considering the increase in stocks, which is no less than 767 tons, during the past fortnight, the stock in Liverpool and Swansea being now 17,418 tons, against 16,651 tons on Feb. 15, and the synopsis of the whole is 44,385 tons, against 47,241 tons, or about 3000 tons increase for the month of February. In the bad state of trade, and the warlike attitude of Europe, there is everything tending to depress the market, and nothing beyond the strength of holders to support it. Supplies are not expected to show any falling off, and holders will doubtless get bolstering up a declining market, especially at such a critical period, and at one of the worst parts of the year for this metal. Those holders who are free to act and see the feebleness and emptiness of the resources upon which current rates are maintained should unhesitatingly avail themselves of the chances that remain of getting quit of their stocks without reserve. The principal part of existing stocks will have to be disposed of sooner or later before any confidence will be established, and holders would do well to seize any favourable opportunity to effect sales. This is not a time for speculating, nor for waiting for a rise, as the chances are decidedly in favour of a further fall. The particulars of charters for the first half of February are 750 tons bars and ingots, 350 tons in furnace stuff for U. K., and 1100 tons bars for the Continent. Ores have been sold at 12s. per unit for 7¾ per cent., Chilian ore and regulus at 12s. 9d. to 13s. per unit, and Cape ore at 13s. By the mail from New York on Feb. 16 it is stated that the manufactures of copper and yellow metal are in steady fair demand at former prices, and sheathing copper quoted 26 c., braziers 28 c., yellow metal sheathing 20 c., English yellow metal 15¾ c. in bond. The demand for ingots continues to be confined to small parcels to supply immediate wants, with prices steady at 17½ c. to 17⅝ c., mostly at 17⅝ c., and one sale of 200,000 lbs. from dock at 17¼ c. sharp cash. Orders from India for 4 by 4 copper and yellow metal have greatly fallen off, and prices in the majority of cases are limited to about 74*l.* for the former, and 74s. 6d. for the latter.

IRON.—The markets remain in much the same state as represented during the last few weeks, and is accurately described in that forcible expression of "flat, stale, and unprofitable." The orders are few, and the mills are not turning out a quarter of what they are capable of doing. Manufacturers, however, are compelled to forgo orders simply because they cannot find men willing to work at lower wages, which is necessary to enable them to sell cheaper; the consequence is that masters can secure but little business to make a profit upon, and the workmen can obtain but little employment to earn any money by, and it would appear that rather than bring rates to the same level as those of foreign competitors, and thereby obtain additional work and remuneration, they prefer to hold out and suffer the just penalties which idleness and rebellion invariably inflict upon their victims. It is a most lamentable circumstance that after the painful experience of the last year or two—during which time so many of the ironworks have been ruined, or obliged to stop working, on account of the immoderate wages demanded in proportion to the prices that could be realised—that we are now no nearer an effective arrangement between masters and men than we were at the commencement of the decline in the trade. The length of time that has already elapsed ought to be a convincing proof that it is perfectly useless to go on holding out in the same way in the hope that some amendment will take place in business, and obviate the necessity for any further reduction in wages, and how foolish is this sort of reasoning when no steps are taken to strengthen and encourage trade, and if any imagine it will come merely by waiting for it, without any effort being put forth to create it, we think their patience will be well nigh exhausted before the desirable change is realised. A great deal of work might have been obtained for Wales that has been allowed to be carried off by Belgium, and our men might be fully employed instead of being in a state of semi-starvation. It is at such a depressed period as the present that low wages must be submitted to that makers may be enabled to sell cheaper than iron can be bought at elsewhere. When there is but little work to be obtained it is more than even necessary that it should be retained, and in no way jeopardised, for by keeping a trade well together in bad times the first return to good times would be ensured, but once out of the regular groove the chance is lost, and it is only after other refusals we are offered the rejected business. In consequence of the dearness of labour in this country many of the ironmasters are gradually discontinuing to follow up the manufactured branch, and prefer selling their iron in pigs. In the latter case they can make a slight profit, but in the former they make no profit, but rather a loss. It is not surprising, therefore, that they should abandon the one in favour of the other, but the industrial portion of the community suffer severely by the cessation of the manufactured article, for it is upon the increase of our manufacture that the working classes depend, and it is a matter of vital interest to them that they should not be discontinued, yet they cling to a persistently obstinate course, and will work only at a higher rate than what work can be obtained for. They may fancy that they can constitute themselves masters of the situation, and still dictate their own terms, but this remains to be seen, and as folly and destruction go hand in hand it is not difficult to foresee the utter collapse of the iron trade of England, but even now if the men would be willing to conform to the necessities of the times there would be hope that all is not lost, and the iron trade would probably once again take a leading position in the commerce of the country.

The requirements for iron and steel are not diminishing, and it will be a long time before any substitute can be invented to take their place, but there is a temporary depression aggravated by an excessive foreign competition, and our men should join heart and soul in defeating it, and demonstrate to the world that no iron can be bought cheaper or better than in England. The unsettled state in which politics are driving is causing the trade to fall more and more every day. Factors are afraid to buy, as their orders from abroad are so scarce. Masters refuse to reduce their limits, as they declare that if they did so it would be ruinous to themselves, consequently speculation has completely died out, and business is carried on in a most slothful and languid condition. All appear to be nervous and anxious as regards the future, which looks so dark and dismal, but few seem to know how to act. Sellers think that orders must be placed before long, and are, therefore, very reluctant to make any reduction in their prices, whereas merchants who have orders believe that by their holding back for a short time quotations must be reduced. The reports from Sheffield state that the trade in that district continues to get worse, and great distress is felt by both employers and employed. The latter are showing great dissatisfaction at the continual reduction which is being made in their wages. At the earlier part of the year they had to submit to a reduction of 5 per cent.; this week they have had to be content with a further reduction of 7½ per cent., and yet with these constant reductions in wages masters are unable to realise profits. The rails, however, are in somewhat better demand, and the works are fairly active.

There is said to be very little business doing in the Rotherham district, and the whole trade keeps in a most sluggish condition. The works only remain barely employed in the execution of a few straggling orders. The directors of the Midland Iron Company, who held their annual meeting last Saturday, reported that the depression in the iron trade has continued with increased severity during the past year. Great dulness prevails at South Durham. Hopes are entertained that business may soon return somewhat to its former activity, but it is very evident that until some settlement is made in politics it cannot be awakened out of the deep slumber into which it has fallen, and remained now for so long a time. The plate-mills, however, appear to be fairly active, and sellers have quoted 6*l.* 5s. to 6*l.* 7s. 6d. per ton for plates; 7*l.* 10s. for sheets; and 6*l.* for angle-iron. Further reductions in men's wages are expected to take place shortly, but nothing definite has yet been fixed. Business in common bars is very slack, and masters are quoting at 5*l.* 12s. 6d. per ton for unbranded bars. Manufactured iron has shown but little variation as regards prices, and the demand has been very small. Pig-iron can still be had at former quotations, but there are very few buyers on the markets, consequently the transactions which have taken place have been very limited, merely those to meet immediate requirements. Stocks continue large, and show no signs of diminishing.

The trade at Barrow-in-Furness, though dull, is reported to have shown some slight improvement, and the markets are steady. Both buyers and sellers are expecting business to return somewhat to its former condition. However, there seems to be a disposition amongst the masters to abide their time, and not to force trade, as might have been expected under the present distressing circumstances. The demand for Bessemer pig-iron is very good, chiefly by steel makers, who appear to be fairly busy. Iron ore and finished iron, though keeping their former quotations, are steady, but in very limited request, the latter especially showing great inactivity. Iron shipbuilders have but few contracts on hand, and prices remain unchanged.

A more lively tone has shown itself at Birmingham, which is very encouraging after the long depression which has been so prevalent for some time back, not only over the markets in this district, but over all in the kingdom. A fair business has been transacted in marked bars, chiefly at 8*l.* 10s. per ton, but inferior brands are in but small request. The demand for hoop-iron and boiler-plates is very fair, the former being quoted at 8*l.* per ton, while the latter may be bought at 10*l.* 10s. per ton. Orders are more numerous now for galvanised sheet-iron than they have been for some time past, and makers appear to be fairly employed, chiefly in the execution of colonial contracts. Pig-iron remains firm, and the demand is gradually increasing, though slowly. The reports forwarded from Leeds are not so favourable, nevertheless, although there are no signs of improvement, business does not appear to have receded, but the whole trade remains in the same dull and slothful condition in which it has been now so long. Prices keep without change, and merchants who receive orders their limits are so low that they are unable to carry them through. The forges in general are working short time, as has been the case for several weeks past. The distress at Wolverhampton appears to be very great. Men being unable to get sufficient work causes many families to be on the verge of starvation.

The Middlesborough markets appear to be steady, although very little business is transacted. Prices are somewhat firmer. It is reported that the Britannia Ironworks in this district, which are, perhaps, among the largest rail mills in the kingdom, have been let on lease to some local firm, who intend converting them into plate mills, as the demand for plates is very fair, while for rails it is very slack. These works, which have now been closed for about two years, gave employment to about 2000 hands. The business done in pig iron is very small, and the returns show that there are 50,800 tons in stock in Connal's store. The foreign markets show little variation. Although the French trade is very slack, prices have remained without change, and business has been particularly quiet. The American pig market is inactive, and prices show no alteration: $20 was realised for 100 tons No. 1, ex Millerston. Scotch pigs remain about the same, and we quote for Glengarnock $25 to $25·50; Eglinton, $24 to $24 50; and Coltness, $25·50 to $27. Scrap-iron remains dull; the price for No. 1 wrought is $22 to $23 from yard. Scotch pig-iron at Glasgow has been somewhat easier, and the demand not so good, business being chiefly done at 51s. 3d. cash. The markets now close at 51s.

SHIPMENTS.

For the week ending Feb. 24, 1877 ..... Tons	6,559
For the week ending Feb. 23, 1878.....	5,124
Decrease	1,435
Total decrease for 1878	3,062
Imports of Middlesborough pig-iron into Grangemouth:—	
For the week ending Feb. 23, 1878.....	6,635
For the week ending Feb. 24, 1877..... Tons	5,780
Increase	855
Total decrease for 1878	4,786

FURNACES.

In blast Feb. 24, 1877	117
In blast Feb. 23, 1878	86

TIN-PLATES.—The market is dull, and prices have slightly given way again. The New York market reports that plates do not receive much attention as far as regards large parcels, but the jobbing demand quickens a little, and prices are steady. IC charcoal, $6·12½ to $6·25; IC coke, $5·37½ to $5·50; IC charcoal terne, $5·75 to $6; IC coke terne, $5 25 to $5·37½, all gold.

TIN.—During the past week steady prices have ruled, but the quantity reported to have changed hands is not large. The consumption is scarcely equal to the supply, the stock having increased during February to 8616 tons, against 8268 tons for the previous month, but that in itself alone is not considered to be of sufficient importance to materially affect its value. Although the stock was quite large enough before, yet if importers would only moderate supplies a little more in proportion to the demand there might not be any further serious depreciation necessary on that account, but the political aspect of affairs is discouraging to holders, and if the large withdrawals of gold from the Bank continue there may be some pressure to realise, so as to avoid being burdened with heavy running expenses, which would, of course, have the effect of weakening prices, and perhaps necessitate a number of forced sales. The immediate future is not promising, and the greatest caution should still be observed in all operations. From New York on Feb. 16 the market was reported to have undergone no change for the better. Stocks accumulating, demand very light, and prices to a great extent nominal. Banca quoted 17¼ c.; Straits, 14¼ c.

QUICKSILVER remains at 7*l.* 2s. 6d., without any feature of interest.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday evening. The Glasgow market has been very steady to-day. G.M.B. warrants close this evening at 51s. 1d., a fall since last Friday of 4d. per ton. We quote makers' No. 1 iron—Gartsherrie, 59s. 6d.; Coltness, 64s. 6d.; Calder, 59s.; Langloan, 61s. 6d.; Summerlee, 59s.; Monkland, 52s. 6d., f.o.b. Glasgow; Glengarnock, 58s. 6d.; Eglinton, 53s. 6d., f.o.b. Ardrossan; Shotts, 60s. 6d., f.o.b. Leith; Kenniel, 54s. 6d., f.o.b. Bo'ness. We have more orders on the market for specialities, principally required by the Government. All these increase the demand for the best brands of iron, which has sent considerable orders through the different engineering shops, or direct from the Government to the Yorkshire and Staffordshire Works; nor can it be said that the general trade is worse than it was a week since; on the contrary, we think, on the whole, the aggregate trade throughout the country is quite as active as when we last wrote. There has been a good business on the Glasgow Exchange this week, with little variation in price. The stock of pigs in Connal's store, at Middlesborough, yesterday was 52,350 tons, being an increase during the month of February of 9780 tons. We report the death this week of Mr. George Moffatt, who was at his decease the holder of 40,000*l.* worth of debentures in the Llynvi, Tondu, and Ogmore Ironworks, in Wales. It will be remembered this company went into liquidation three weeks since, being unable to pay the interest due on the debentures, which in the aggregate form a large item. We regret to have to announce the death of Mr. John Lindow, of Cleator, West Cumberland, and Mr. William Bayliss, formerly senior partner of the well-known firm of Bayliss, Jones, and Bayliss, of Wolverhampton, and Crooked lane, in this City. The tin-plate trade continues as much depressed as ever. No change for the better in metals. Tin easier and weaker. Spelter drooping. Copper without change.

Messrs. HARRINGTON, HORAN, and CO. (Liverpool, Feb. 28)—Arrivals here during the fortnight of West Coast, S.A., produce—Valparaiso, from Valparaiso, 422 tons bars, 100 tons ingots; Achievement, from Valparaiso, 420 tons ores; South Glen, 320 tons bars; Broughton, from Pisco, 350 tons ores; City of Valparaiso, from Boston, 730 tons bars; Jessie Stowe, from Pisco, 364 tons ores. At Swansea—*nil.* Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, we estimate at—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool.....	2357	917	12,201	—	—
Swansea	2189	4645	1,805	—	—
Total.....	4546	5562	14,006	—	—

Representing about 17,418 tons fine copper, against 16,651 tons Feb. 15; 12,980 tons Feb. 28, 1877; 11,958 tons Feb. 28, 1876; 12,838 tons Feb. 28, 1875. Stock of Chili copper in Havre, 8860 tons fine, against 11,515 tons Feb. 28, 1877; stock of Chili copper afloat and chartered for to date, 10,900 tons fine, against 13,700 tons Feb. 28, 1877; stock of foreign copper in London, chiefly Australian, 5800 tons fine, against 3399 tons Feb. 28, 1877.

Messrs. FRY, JAMES, and CO.—A dull condition has prevailed in all branches of our market since our last report.—COPPER has been in small request generally, but a fair quantity of Australian (Burra Burra and Wallaroo) has been taken for consumption here and on the Continent. Chilian is rather easier for ordinary g.o.b., whilst best brands keep firm.—IRON shows no change.—TIN has fluctuated slightly and demand has been small, but on the whole this metal has held a steady course.—LEAD continues flat, but without quotable change.—SPELTER without life.—TIN-PLATES are still suffering from the over-production.

Messrs. PIXLEY and ABELL.—GOLD: The arrivals have been quite inadequate to supply the demand, and further recourse has been had to the Bank's stock, the total taken since the 21st inst. being 488,000*l.* Sovereigns from Australia to the value of 99,000*l.* have been sent in. It is probable that large sums will continue to flow from the Bank; there are orders still unexecuted, and the amounts at sea for this country are but small. The Mineho takes 147,000*l.* to the Brazils, and the Peninsular and Oriental steamer 50,000*l.* to Malta. The Cusco has brought 161,590*l.* from Australia, and the Teheran 9330*l.* from Bombay.—SILVER: From the date of our last circular (21st inst.) a large business has been done in bars for the Continent and India, at prices beginning at 54⅞d., and closing yesterday at 55¼d. per oz. The market is quieter to-day, and the nearest quotation we can give is 55d. to 55⅛d. per oz. The arrivals during the week comprise about 10,000*l.* from America and 405,000*l.* from Germany. The Peninsular and Oriental steamer takes to-day 68,000*l.* to India.

At the Swansea Ticketing, on Thursday, 2539 tons of copper ore were sold, realising 11,814*l.* 7s. 6d. The particulars of the sale were—Average standard for 9 per cent. produce, 86*l.* 1s. 5d.; average produce, 7⅞; average price per ton, 4*l.* 13s. 0d.; quantity of fine copper, 196 tons 18 cwts. The following are the particulars of the two last sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
Feb. 5	1905 ...	£86 18 5 ...	7⅝ ...	£ 4 11 11 ...	12s. 0½d...	£60 6 8
Feb. 26	2539 ...	86 1 5 ...	7¾ ...	4 13 0 ...	12 0 ...	60 0 0

Compared with the last sale, the decline has been in the standard 17s., and in the price per ton of ore about 1s. 4d. There will be no sale on March 12.

The MINING SHARE MARKET is still without any material change, either in the way of business or in quotations, which continue nominal. The settlement of the fortnightly account closed on Thursday, and it was very trifling in amount, when compared with what these settlements used to be in former times, and there seems little disposition in the present aspect of affairs to enter into these speculative transactions. For investment a few purchases continue to be made in some of the most promising mines.

TIN MINES continue dull and depressed and there is no improvement in the price of tin. Dolcoath shares are quoted 30 to 32. East Pool, 9 to 9½; at the quarterly meeting the accounts showed a current profit of 727*l.*, and a dividend of 640*l.* (2s. per share) was declared. The total costs, charging labour, &c., to Feb. 2, and merchants' bills to the end of December, was 5773*l.* The returns were—Copper ore, 853*l.*; tin ore, 2333*l.*; tinstone, 2777*l.*; arsenic, 505*l.*: total credits, 6500*l.* There remains a debt upon the mine of 2229*l.*

Carn Brea, 39 to 41; at the meeting here the accounts showed a profit of 104*l.* on the the three months' working. The cost charged to December were 12,002*l.*, or 4000*l.* per month. The returns to the meeting were—Copper ore, 320*l.*; tin (309 tons), 11,659*l.*; arsenic, 101*l.* The balance against the mine is now 26,981*l.*, or more than 26*l.* per share. Tin during the quarter had fallen 2*l.* 19s. 6d. per ton which made 915*l.* difference in the accounts. The mine is said to be looking well. Tincroft, 11 to 12; at the meeting here a loss was shown on the quarter of 233*l.* The costs were 7228*l.*; credits for tin sold (188 tons), 6980*l.* The debt of the mine to the bank has increased to 11,000*l.*, and a somewhat warm discussion took place between the manager and the lord's agent as to this debt; the latter maintaining that those who had received dividends from borrowed money should be held responsible. Wheal Jane, 1 to 1¼; at the meeting the accounts showed a loss on four months of 1*l.* 10s., and a debit balance against the adventurers of 971*l.* The costs were 2447*l.* Tin credited 2443*l.* Cook's Kitchen, 2½ to 3; Penstruthal, 4s. to 6s.; South Condurrow, 9 to 9½; West Godolphin, 1¼ to 1¾; Wheal Agar, 3½ to 4; Wheal Grenville, 2 to 2½; Wheal Peevor, 6 to 6½.

COPPER MINES show no change, nor any advance in prices. Devon Great Consols, 3 to 3¼; Bedford United, 2s. 6d. to 7s. 6d.; Hingston Down, 5s. to 10s.; Gawton, 2s. 6d. to 5s. West Tolgus, 73 to 75; at the two-monthly meeting the accounts showed a profit of 782*l.*, and a dividend of 1*l.* 10s. per share was declared, leaving a balance in hand of 1456*l.* The costs of the mine were 2766*l.* Returns of copper ore 3548*l.* The sales of ore made for the next meeting, and not credited in the above, amount to 4303*l.*, or 750*l.* more than the previous sales. The next costs, however, will be much heavier, on account of the new boiler and boring machines (the Barrow drill) which have been ordered at a cost of 1200*l.* Parys Mountain, 9s. to 10s.; no particular change here. West Seton, 11 to 13.

LEAD MINES show no particular change, but the majority of them are weaker, especially those paying dividends, chiefly through the dulness of the lead trade, and the want of activity in the market. Roman Gravels, 7½ to 8; the lode in the 95, south of the New Lyme shaft, is worth 1 ton of lead per fathom. Tankerville, 3½ to 4; the 192 end is not looking quite so well; lode worth 2 tons of lead ore per fathom. The agent thinks the falling-off is only temporary. He adds that since he has commenced dressing the leavings on the mine with the new self-acting machinery on the lower floors he had obtained 40 tons 16 cwts. of lead ore, which, at 11*l.* 5s. per ton, would show a profit of 479*l.* 8s. Glenroy, 15s. to 20s.; the mine is improving in the shaft, where the lode is yielding good stones of blende and saving stuff. Great Laxey, 20 to 21; Van, 25 to 27½; D'Eresby Mountain, 50 to 60; East Van, 2 to 2½; Leadhills, 3½ to 4; Llanrwst, 1¼ to 2; North Laxey, 2s. to 4s.; Rookhope Lead, 17s. to 19s.; Temple, 2½ to 3; West Chiverton, 14 to 15; West Pateley

Bridge, 2 to 2½; West Tankerville, ½ to ¾; Wye Valley, 1½ to 2; West Wye Valley, 3⅜ to 4½. Grogwinion, 3½ to 4; the sampling last month was 100 tons of lead, at 11*l.* 15s. per ton, and 100 tons expected for the month of February.

FOREIGN MINES remain quiet. Blue Tent, 3 to 3¼; Chontales, 12s. to 14s.; Eberhardt and Aurora, 6¼ to 6¾; Flagstaff, 10s. to 15s.; Javali, 5s. to 7s; New Zealand Kapanga, 12s. 6d. to 15s.; New Quebrada, 1⅞ to 2⅛; Pestarena, 5s. to 7s.; Port Phillip, 11s. to 13s.; Richmond, 8¼ to 8¾.

The MARKET for MINE SHARES on the Stock Exchange has continued extremely inanimate, the transactions having been of the smallest possible description, and at distant intervals. The Lisburne Company declared a dividend of 1*l.* per share on Tuesday, payable the day following. East Pool has declared a dividend of 2s. per share. West Tolgus has declared a dividend of 1*l.* 10s. per share.

We notice with great regret not only the continued fall in the price of iron and the flatness of the copper trade, but the extreme depression of the lead trade, and a heavy fall in the prices of lead ore. At Middlesborough 12 blast-furnaces are to be blown out, and in other districts a like course will be followed. The low prices of copper must diminish the supplies from Chili and Australia. The proprietors of the Cape Mines, Betts Cove, and the mines in the Rio Tinto district would do wisely to husband their resources. New Quebrada cannot affect the market much so long as it brings such poor ores to this country. The lead mines in this country and in Spain are seriously affected by the present low prices. They are lower than at any time during the last 30 years, and there are very few mines which can be worked profitably. The wiser course to pursue would appear to be to diminish the production as far as possible, to carry out every possible economy, and to keep on working on a smaller scale until better times come round. There are several of the Welsh lead mines which are very poor and cannot pay their costs, and it would be a wise thing to suspend operations altogether rather than dig out the discovered ore at a loss.

Amongst the new undertakings introduced is the South De Eresby Mountain Lead Mining Company, which has been formed with a capital of 30,000*l.*, in shares of 1*l.* each, to develope a mineral property embracing the Penrallt Mine, 51 acres in extent, on the celebrated Gwydyr Park estate in Bettws-y-Coed, Carnarvonshire, and held direct from the freeholder for 21 years, at a royalty of one-twelfth. The property is on the southern slope of the highly mineralised table land separating the Llugwy Valley on the south from Nant Gwydyr Valley on the north. Capts. Bennetts and Roberts both agree in the statement that the main lode of the Coed Mawr Pool Mine, which has been worked since the time of the Romans bisects the South De Eresby Mountain property; and it is mentioned that from this—another lode on the east—the Cwm Lanarch Mine sold hundreds of tons of lead; the results at the De Eresby Mountain indicate that the greater the depth the more valuable the lodes become. From the prospectus, which will be found in another column, it will be seen that the South De Eresby property is now exceptionally valuable, because it is highly mineralised, having six proved valuable lodes, with promising points of intersection; it is easy of access, a good road already existing direct from the mine to the railway station; and that it can be worked at a minimum cost, the lay of the ground be such as to obviate the necessity of steam or water pumping gear for years to come.

The first meeting of the Placerville Gold Company, lately incorporated with a capital of 50,000*l.* in 2*l.* shares, was held on Tuesday. The prospects of the company are reported to be good.

The fabulous mineral wealth of Arizona appears to be still attracting great attention in San Francisco, at which city most encouraging letters are being constantly received. With one of these just to hand from Globe City, A.T., Mr. Henry Sewell has just favoured us. The writer remarks that this little town in the Globe district seems to be the centre of all the mining districts in the Arizona territory, and prospectors are hard and profitably at work in all directions. Their hours of labour are from sunrise to sunset, and they find an abundance of the precious metals to reward them. It is stated that hundreds of mines are open, and the metal assays from as low as $20 to as high as $20,000 to the ton. The miners do not consider the $20 ore worth saving, yet the Mexicans make a living by picking over the dump and collecting this rejected mineral. Most of the ore is shipped to Silver City, and wagons are constantly seen going to and fro, but nothing like justice is being done to the place owing to the absence of working capital, the result being that a rush is made for the pockets regardless of whether the workings are so carried on as to develope great mines. Eastern capital is, however, said to be now going in, so that a better state of things is to be anticipated for the future. The writer adds that there is in Arizona "A rich field to develope. I have been in Nevada, Colorado, and the Black Hills, but I never saw such monstrous quantities of ore as there is here. I have seen it lying right on the top of the ground—the pure article. You can cut it with your knife. I have also seen the pure native silver taken out of the ground at a depth of from 100 to 150 ft. To mention the names of all the mines that are turning out good ore would be almost impossible, for nearly all are doing a large business. One San Francisean company has already contracted for a 10-stamp mill and concentrator, and will take a prominent place as soon as the plant is erected. During last week they made a big strike, bringing down over $21,000 worth of ore with a single blast; this is to be shipped at once. The Danube, Blue Bird, Spring, Poney, Bixby, Valley View, and a number of other mines are all showing splendid ore, and there is altogether every promise of prosperity."

In connection with the same subject another correspondent writes: The latest information from the neighbourhood of the Comstock Mines indicates that a good deal of interest has been taken and a good deal of money invested in outside mines lately—in mines as far outside even as the Black Hills—and that, in a word, the tendency of the public appears to incline towards mining property rather than towards mining stock. Capital is looking towards the tangible value of feet in preference to the fluctuating value of shares. Large numbers of mines which are never heard of in the market are being worked by individual capital or by close corporations, and the popularity of this kind of mining is daily increasing.

Cape Copper, 32 to 33; the returns for December were—from Ookiep, 970 tons. At Spectakel the level from the bottom of the winze is suspended, as the ground does not show a favourable appearance, and consider this part of the mine to be thoroughly tried. During the month the 36 south, on the flookan course, intersected a small pocket of rich ore, bnt the end is now quite unproductive; however, there are still some branches of ore standing in the east side of the level, and the men are put to drive and stope to prove it. The 27 south is very poor, therefore they think it prudent to stop all operations there. At Karolusberg the prospects are not very encouraging. At Nababeep the appearances are about the same. At Narrap there has been an improvement, but it has again fallen off.

St. John del Rey, 315 to 325; the latest telegram from Morro Velho, dated Rio de Janiero. Feb. 23, gives the profit for the month of January at 8200*l.* The telegram previously received, and which was delayed in transmission. states that the produce for the first division (9 days) of January, was 11,000 oits., of the value of 4269*l.*, the ley of the ore being 5·3 oits. per ton= 6·7 oits. per ton old measurement. All is going on well. Don Pedro North del Rey, ⅛ to ⅜; the telegram states that the clean-up for the first division of February was 2100 oits. They have commenced opening stopes on the shoot east from Alice's West, and the lode has a favourable appearance. All works throughout the establishment are progressing well. Frontino and Bolivia, 1¾ to 2¼; owing to the drought having caused the water to fall in the Magdalena river, the mail from the interior had not reached the coast when the homeward steamer was dispatched.

Flagstaff, ⅝ to ¾; a Salt Lake correspondent writes, Feb. 4, that the mine produces a round 100 tons per day. If the English leave the property in Mr. Billing's possession they will surely become more heavily involved than poor "Emma" was. Mr Hunter, of the Flagstaff, was sent off from there by the miners at the point of a six-shooter; he had hidden himself out of fear in the storekeeper's bedroom; the miners alleged that he wanted to swindle them. The "Holden" suit has again been opened to-day, and fully establishes the fact that the Americans swindle each other to just as great an extent as they do the English. The Emma continues to ship steadily. The Bay City tunnel stays with its face underneath the Emma. We may prepare ourselves for some startling news from the latter source shortly. The Chicago is under the superintendence of Mr. Daggett, and will start up in a few days. On the Last Chance Hill, in Bingham, gold was discovered last summer, and has been steadily shipped ever since. Several important sales of mines have been made lately. In connection with the above reference to the Emma, Mr. Henry Sewell forwards an account from Little Cottonwood, which states that the Emma leasers are doing excellent work, and the interior of that property is assuming a favourable appearance. It was thought the Bay City tunnel was rising for the Emma shaft, and should it break through the advantages in handling ore will be improved. On Thursday nearly 500 sacks of ore were shipped to Sandy by Mr. Scrimgeour, about 4 tons of which was good ore, the rest medium. Alta city is still and quiet, the miners being engaged. There is considerable developing work being done now on the leasing and tributing plans, most of which is panning satisfactorily. In the Wellington a respectable strike was made a few days since, the latest report concerning which was that from 5 to 6 ft. of good ore had been opened. On the 4th level of the Prince of Wales about 4 ft. of splendid ore had been struck, and the parties interested were correspondingly happy. Most of the big mines are running regular forces. The Victoria and Imperial has recently been leased again, and work on that property will be pushed. The Kate Hayes people are putting in some good "licks" on that property, and shipping lots of good ore. The Toledo has also forwarded some rich dirt to Sandy.

The Market for Hydraulic Mines exhibits no feature of change. There are buyers of most of the descriptions at quotations; this industry is in much favour in California, and is spreading wider and wider as it becomes better understood. The abundant rains of the present year have started all the claims, and miners are anticipating a long and prosperous season. Blue Tent, 3 to 3¼; steady washing is being carried on at three claims, and the ground is looking well for good results. The latest dates bring down intelligence to the end of January; the rainfall for the season in Nevada City had been 22½ in. Cedar Creek, ½ to ⅝; the Dutch Flat Forum of Feb. 3, says—"This company is washing at the Baker claim six hours a day, using 1600 in. of water, and employing 12 men, who are kept busily employed throughout the day in breaking boulders and pulverising cement." Oregon, 4 to 4½; washing is progressing with two giants at the Reed claim and one at the Thoas claim. The agent also reports considerable snow in the mountains—a very important feature. Birdseye Creek, ⅝ to ⅞; a You Bet correspondent to the Mining Press of Jan. 25, says that the late rains have started up the mines once more. The English company have been washing for some time at Brown's Hill; they will resume washing at Red Dog on the the 27th, and will be ready to turn water on to the Walloupa Mine in the course of a week, as a shaft is being raised for that purpose.

Hultafall, 3½ to 4½; the information from this mine continues good. The dressing machinery is rapidly approaching completion, and the mine opening out well. There is no change to report in the workings. The sinking of the shaft and driving of the level are being prosecuted vigorously, and a large mass of ore is being raised. There has been transported to the dressing-floors a large quantity of mineral ready for dressing, and it is expected that the dressing machinery will be so far completed as to commence operations next week.

Lead Mines have participated somewhat in the depression in other departments. Van, 25 to 27; Seaham's shaft is going down in a masterly lode, intermixed throughout with lead and blende. The 105 west is rapidly improving, now worth 25*l.* per cubic fathom for lead ore. The 90 west is driving in a splendid lode, worth 110*l.* per cubic fathom for lead. No change to report elsewhere. Grogwinion, 3½ to 4; the monthly sale of 100 tons of lead, on Thursday, realised 11*l.* 7s. 6d. per ton. The manager's report states that the new discovery in the winze below the deep adit continues to be sunk in rich ore, worth 2 to 3 tons per fathom, and that so far no water has been met with, although the bottom is now considerably below the level of the river. The lode is richer in this—the deepest point of operations—than in any other part of the mine. No 4 lode in the principal levels continues to open out rich, and large reserves of ore ground are being accumulated. Wye Valley, 1¾ to 2¼; the recent improvements in this mine continue, and the prospects are steadily growing better. The manager reports that the sinking of Tippett's shaft has been resumed in a kindly lode, and that although only sunk a short distance, good lumps of ore are already met with. The 24 east still improves, and shows good indications of becoming again productive, and the 46 or bottom level also looks more satisfactory, and yields a little lead, with strong indications that it is approaching an important deposit. West Wye Valley, 3¾ to 4¼; the second monthly sale of lead ore will take place on Monday. The manager's report states that during the past month greater progress has been made than he expected, and that Brookes's shaft is already down for a new level (52 fms.), and driving has already been commenced at that depth, under the best possible conditions for fresh discoveries. The 40 has now been communicated with both the shafts, whereby a great advantage is gained in ventilation, and also in hauling and pumping, and the south cross-cut put out at this level has further improved, and is yielding rich ore. The stopes in the various parts of the mine (five in number) are looking well, and yielding an average of from 1½ to 2 tons of lead per fathom. Dressing is proceeding satisfactorily, and the manager expects to return steady monthly sales, which will probably be greatly increased as the works progress.

Caron, 2½ to 2¾; the monthly report states that the lode in the bottom has again improved. When previously reported upon it was valued at 15 cwts. per fathom—it is now worth fully 25 cwts. per fathom., and is still improving. The lode is a very strong one, and is mineralised throughout, and it bids fair to become exceedingly productive as greater depth is attained. The new shaft and the surface buildings are going on well; the machinery will be quickly put in position. The energy displayed by the executive of this company, and the encouraging success that has so far attended upon their exertions, is reported to have instilled fresh life into the locality of the mine, and great results are confidently predicted for Caron by those who know the district well, whilst it is whispered that, consequent upon the rapid success which has attended its energetic development, efforts are likely to be made to resume active operations at certain neglected properties in the vicinity. Several satisfactory discoveries which have recently taken place upon lodes running parallel to Caron have also tended to strengthen the feeling. Red Rock, 2 to 2½; the second sale of ore (40 tons), on Thursday, realised 10*l.* 2s. 6d. per ton. It is understood that this parcel was not quite perfectly dressed, and it is intended to make certain inexpensive additions to the dressing machinery which will in future enable the ore to be sent to market perfectly clean, and at a saving of cost over the present process. The monthly report is a satisfactory one, and says that the new discovery in the 60 east is still improving in extent and productiveness, and that the other points of operation look as well as usual. St. Harmon, 2 to 3; another branch of ore has been intersected in the 67 cross-cut, and it is intended to at once drive east on the most productive part of the lode, where a good deposit of lead is expected. The cross cut towards the south lodes is making good progress, and prospects are steadily improving. The stopes in the 35 are yielding very nice ore, and likely to improve; this is in new ground, which is whole to the bottom of the mine. South Cwmystwith, 3 to 4; the dressing machinery is now in full work, and a parcel of lead will be ready in a few days. The mine is looking well.

Pateley Bridge, 2½ to 3½; the 30, east on Rake vein, has further improved, and now worth 2½ tons of lead ore per fathom—a fine course of ore. The same vein west is unchanged, and the various stopes are producing lead as usual. The agent says that on the whole the mine is fast improving. West Pateley Bridge, 2 to 2½; the various points of operation maintain former reported values; sinking No. 2 shaft from the 20 fathom level will be resumed in a few days. A parcel of pig-lead is to be sold on Monday.

Subjoined are the closing quotations:—

Assheton, ½ to 1; Carn Brea, 29 to 31; Devon Great Consols, 3 to 3¼; Dolcoath, 30 to 32; East Caradon, ⅜ to ⅝; East Van, 2 to 2⅛; Great Laxey, 20 to 21; Hingston Down Consols, ¼ to ½; Leadhills, 3¼ to 4; Marke Valley, ½ to ⅝; Parys Mountain, 9s. to 11s.; Pateley Bridge, 3 to 3⅛; Penstruthal, ⅜ to ⅜; Roman Gravels, 7½ to 8; Rookhope, ¾ to 1; Tankerville, 3½ to 4; Tincroft, 11 to 13; Van, 26 to 27; West Assheton, ½ to 1; West Chiverton, 13 to 15; West Pateley, 2 to 2½; West Tankerville, ¾ to ⅞; Wheal Crebor, ⅛ to ⅜; Wheal Grenville, 2⅛ to 3; Almada and Tirito, ¼ to ⅜; Birdseye Creek, ⅝ to ⅞; Blue Tent, 3 to 3¼; Cape Copper, 32 to 33; Cedar Creek, ½ to ⅝; Chontales, ⅛ to ¼; Colorado Terrible, 1⅛ to 2; Don Pedro, ½ to ¾; Eberhardt and Aurora, 6¾ to 6⅞; Exchequer, ⅛ to ¼; Flagstaff, ½ to ¾; Frontino and Bolivia, 1⅞ to 2⅛; Hornachos, 12 to 12½; I.X.L., ½ to ¾; Javali, ¼ to ½; Kapanga, ⅜ to ⅝; Last Chance, ¾ to 1; New Quebrada, 2 to 2¼; Oregon Preference, 4 to 4¼; Pestarena, ⅛ to ⅜; Plumas Eureka, 2⅝ to 2⅞; Port Phillip, ⅜ to ⅝; Richmond Consolidated, 8¼ to 8¾; St. John del Rey, 315 to 325; Sierra Buttes, 1½ to 2; United Mexican, 2 to 2⅛; Tyn-y-fron, 1¼ to 1¾.

COLLIERIES.—Business remains inactive in colliery shares, few transactions having taken place, and these at last week's prices. In many of the coal and iron districts, however, increased business can be discerned, and if the present period of uncertainty as to the future of the Eastern Question soon ends there can be no doubt that trade will rapidly improve. Birmingham reports show that the local iron trade is decidedly better, not only as regards pig, but also for manufactured iron, and it is expected that this town will secure all or a large part of the Government contracts recently open for 150,000 rifles. South Wales is also looking up in the coal trade, large Government orders having been placed for steam coal. The recent perfection of an invention by which the South Wales anthracite coal can be used for steam purposes, with the most satisfactory result, will make a very considerable difference to the owners of this class of coal, which can be easily and very economically worked. We hear rumours as to the early appearance in this district of a new company, whose capital is almost all privately subscribed, and whose business will consist in working a valuable anthracite coal, besides large iron and steel works. It is judged from the parties connected with this proposed company, that it is certain to prove a great success. Other markets, such as Newcastle, Staffordshire, and Derbyshire, report some improvement and better prospects. The demand for coal in South and West Lancashire is not active, and some fears are entertained of a fall in quotations. This may, perhaps, partly account for a few Chapel House shares being put on the market, but the more immediate cause is, no doubt, the recent fire, which destroyed the pit stagings and head-gear. Neither reason, however will really affect the company, for the fire was of very small consequence, the damage being covered by insurance, and the company has always found a good market for its coal even in the worst times. The recent report of the New Shariston directors is not encouraging, there being a balance of over 2000*l.* on the wrong side of the profit and loss account. This, however, is to some extent accounted for by a three months' strike, which has long since ended Alltami report a good land sale of coal of excellent quality. The directors' report at the Llay Hall meeting was adopted, and good prospects were foreshadowed. both as regards the manufacture of clay goods and the output of coal, which can be maintained at over 300 tons per day. Alltami shares are quoted 4 to 5. Llay Hall, 8 to 10. Chapel House, 3 to 3½. New Shariston, 3¼ to 3¾. Cardiff and Swansea, 1 to 1¼. Thorp's Gawber, 2¼ to 2¾. Cakemore, 5.

At the ordinary general meeting of the Sun Autopneumatic Lighing and Heating Company, on Thursday, a dividend of 8 per cent. per annum was declared.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Original Correspondence; The reason why Masses of Native Silver are found in Arizona and the Northern Provinces of Mexico (J. Barwise); Mining in Newfoundland; Australian Tin; Safety-cages; Rock-Drills; Rock-Boring Machinery (J. Barkell); Treatment and Separation of Ores; Metalliferous Mining in North Wales; Llanrwst Lead Mine (R. Knapp); Cardiganshire Mining in Depth, Cardiganshire Mines (A. Francis); Great West Van Mining Company (H. C. Seldon); Great West Van (W. Ward); Bwlch United Mines; the Mining Interests (R. Tredinnick); Cost-Book System and Limited Liability (T. White); Limited Liability v. Cost-book (M. F. Dormer); Anomalies in Mining; Mining in East Cornwall (C. Bawden); Cornish Mining—Circumstances which affect the Metallic Portion of Lodes (C. Bawden); Hingston Down Consols; South Darren Mine (T. Bush); Treleigh Wood Mine (R. Symons); the Clay Trade; Account-house Expenses (R. Symons); Meetings of Placerville, South Wales, West Godolphin, East Pool, West Tolgus, Tincroft, Carn Brea, &c.

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The ANNUAL GENERAL MEETING of the Shareholders will be HELD at the Hotel d'Angleterre, Liége, on SATURDAY, the 13th f April next, at One o'clock P.M.

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WEST WYE VALLEY.
This property has commenced to make regular returns of lead: 50 tons have already been sold at £12 per ton, and another parcel will be sold on Monday. The shares are well worth attention. Price £3¾ to £4¼.
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A petition has been presented to the High Court of Justice for the winding-up of the Vron Slate Company.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

NICKEL PLATING.—I noticed in the Journal of Feb. 16 a question as to where your correspondent, "M. S.," could get keys, hinges, &c., coated with nickel. There are, I believe, several establishments in Birmingham and Sheffield where such work can be done; amongst others, that of Messrs. H. H. Vivian and Co., George-street, Birmingham.—JOHN SNELL: *Ladywood, Birmingham.*

STONE BREAKERS.—"H. J."—The principle of breaking on the back as well as on the forward stroke is not new. The arrangement used was a pair of hoppers one on each side of the swinging jaw. In the centre of the swinging jaw there was a cam, or rather an eccentric drum, which in its rotation forced the jaw forward, first in one hopper, and then in the other. It was claimed that more work was done per horse-power consumed than with the single hopper breaker, but recently this has been denied, and it is added that the disadvantage of the double hopper is that two men must be employed to feed instead of one.

METALLURGY OF NICKEL.—"P. C."—An exhaustive treatise on the subject, occupying about 100 pages, has been published in a recent volume of the Annales des Mines of Paris. A copy of it can no doubt be seen in the library of the Royal School of Mines in Jermyn street. Nothing of the kind is published in English, but various patents have been secured, in the specifications of which much information is given.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

Received.—"C. S. N." (Inyo County, California): See last week's Journal—"J. W." (Sheerness)—"Constant Reader" (Bangor): The information shall be published in next week's Journal—"W. T." (Ballydehob)—"Senex" (Saltcoats) wishes for some information respecting Drake Walls Mine—"Constant Reader" (Camborne): The letter is not adapted for publication, referring chiefly to private matters, which are of no public interest—"M. N." (Glasgow)—"Shareholder" (Wheal Crebor)—"Shareholder" (Richmond) should apply at the office—"Shareholder" (New Zealand Kapanga)—Capt. S. Trevethan (Mining in Cardiganshire).

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, MARCH 2, 1878.

ECONOMISING OF FUEL IN THE PRODUCTION OF IRON.

For several years past our ironmasters have been paying marked attention to the consumption of fuel in their blast-furnaces, and the means by which the largest quantity of pig can be produced at a minimum cost of coal and coke. That their efforts, more especially in the North of England, have been successful cannot be questioned, although not to the extent many persons are inclined to believe. Since 1864, we are told by Mr. I. LOWTHIAN BELL, that in the Cleveland district they had succeeded in reducing the quantity of coal to make a ton of pig-iron from 70 cwts. down to from 41 to 46 cwts., showing a saving of something approaching to 40 per cent. But this estimate, large as it undoubtedly is, was greatly exceeded by Mr. MUNDELLA, M.P., in a paper read before the Statistical Society, entitled "What are the conditions on which the commercial and manufacturing supremacy of Great Britain depend, and is there any reason to think they have been, or may be, endangered." Mr. MUNDELLA stated that our manufacturing supremacy, which was of comparatively recent growth, was based upon our chief supplies of coal and iron. As to the progress of the economy of coal in the manufacture of pig-iron, he said that within seven years we had increased the make of pig-iron by 1,100,000 tons, with a decreased consumption of coal of nearly 800,000 tons. These figures are certainly startling, and how they have been arrived at is equally surprising. With all the statistics attainable before us, we are unable to arrive at anything like the same conclusion. However, we find that Mr. MUNDELLA was a member of the Committee of the House of Commons on Coal, which sat in 1873, and from the report of that body we find it was assumed that it required an average of 3 tons of coal to produce 1 ton of pig-iron. If that is the basis of the figure given to us by the member for Sheffield, erroneous as they are from the statement of Mr. BELL, then his deductions may to a great extent be justified. But even then there are other things to be taken into consideration when we come to look at the saving effected in the fuel consumed in the working of our blast-furnaces that have been overlooked by Mr. MUNDELLA, and which are of great and growing importance. Not the least of these is the vast increase that has taken place in the demand for steel for rails and other material, and for which up to the present time the ironstone of Cleveland, Derbyshire, and the majority of our districts has not been found suitable, consequently we have been obliged to import large quantities of hematite from abroad as well as increase as far as we have been able our home supplies.

So far as regards what we receive from foreign countries, we find that our imports were in 1875 about 458,693 tons, in 1876 they were 675,190 tons, and in 1877 they ran up to 1,140,434 tons. Our own fields of hematite have also been well developed of late years, for whilst in 1872 Cumberland yielded 917,452 tons, in 1876 it raised 1,353,910 tons, whilst Lancashire during the same periods also largely increased its output. Now, there is a great deal of difference in the smelting of hematites and the inferior ores, such as the hydrated oxides, argillaceous carbonates, and the ironstone of the coal measures. The former will give from 60 to 75 per cent. of metallic iron free from phosphorus and other impurities, causing it to be suitable for converting into steel, whilst the others will only give from 28 to 40 per cent. of iron, which cannot be made into steel. The consequence is that a ton of pig obtained from hematite will, of course, require a much less quantity of fuel for smelting than the poorer ores. But this cannot be said to be a saving effected in the consumption of fuel by scientific means, for the more hematite that is used the less fuel will be required to produce a given quantity of pig. It may also be said that for some qualities of iron hematite is being used with inferior ores, and our imports to the North of England, from Spain in particular, are increasing, and by this amalgamation less coal will be required. Indeed, everything points to the probability of less ordinary ironstone being required with a much larger demand for those descriptions that will produce both Bessemer and ordinary cast-steel. This will be apparent by our looking at the falling-off which has taken place in iron rails alone, both for home and exportation, and in the marked increase in the production of those made of Bessemer. The saving that has really been effected during the last five years will be seen from the following figures, which show the quantity of coal consumed in the making of a ton of iron in 1872 and 1876 (the statistics for last year not having been published):—

	Quality.	1872. Coal per ton. Tons c.	1876. Coal per ton. Tons c.
Durham, &c.	Hematite, &c.	2 7	2 6
Lancashire	Hematite	1 15	1 16
Cumberland	Do.	2 9	2 3
Gloucester	Hematite, &c.	2 14	3 4
Yorkshire, North	Argillaceous	2 5	2 6
Yorkshire, West	Do.	2 5	2 7
Derbyshire	Do.	2 18	2 12
Shropshire	Do.	3 0	3 2
Staffordshire, North	Do.	2 19	2 9
Staffordshire, South	Do.	2 16	2 14
Northamptonshire	Hydrated oxide	3 1	2 10
Lincolnshire	Do.	2 18	2 9
Wiltshire	Do.	2 17	2 6
North Wales	Hematite, &c.	2 14	2 11
South Wales anthracite	Do.	2 16	2 11
Glamorgan	Do.	2 11	2 1
Monmouth	Do.	2 8	2 2
Scotland	Argillaceous, &c.	2 19	2 15

The average quantity of coal used in making a ton of pig in 1872 was 2 tons 11 cwts., and in 1876 it fell to 2 tons 7 cwts., and the actual saving would be about 1,300,000 tons of coal, and not the large quantity that would be inferred from the statement made by Mr. MUNDELLA. At the same time it should not be forgotten that in making pig much depends on the quality of the ore smelted and the coal used.

IRON TRADE PROSPECTS.

There appears to be an impression in some quarters that matters in the iron trade have reached their worst point, and that the tendency of business is now rather in the direction of improvement than otherwise. It will not do to be too sanguine upon this head more than upon any other matter, still there are certainly some influences at work which seem to promise a return of better times to British iron making. First and foremost among these influences we may fairly place the, at any rate, comparative docility of the working classes. Three or four years since it was all insubordination and bluster, Mr. HALLIDAY or Mr. MACDONALD; now it is something like repentance; we scarcely ever hear of Mr. HALLIDAY, and Mr. MACDONALD makes but a Dutch defence when efforts to secure reductions of wages are attempted by employers. These reductions have been on the way for at least three years; at first they met with little success, but as the pressure of the times has become keener and keener, the ability of the working classes to resist a return to more reasonable remuneration for their labour has become weaker and weaker, until it has almost disappeared altogether. Far be it from us to exult in any way at this result; the labourer is worthy of his hire, and the remuneration of the man who toils at any industry should be as large as is compatible with some return upon the capital which sets the particular industry in motion. This is an obvious truism, but matters reached such a pass in the British iron trade in 1872, 1873, and 1874 that it became necessary to have recourse to truisms. We can but express satisfaction, then, that the current has set of late in the direction of reasonable wages. We say this not merely in the interest of the capitalist, but in the interest of the working man himself, for, after all, it is only reasonable wages which are continuous wages, and unreasonable wages mean an ultimate suspension of industrial operations, with all the ruin and misery which such a suspension involves. Reasonable wages in the iron trade will enable our ironmasters to produce cheaply, to grapple vigorously with external competition, and perhaps to regain some of the ground lost by them of late upon the markets of the world. The second influence which is telling in favour of the iron trade is the very power of cheap production to which we have just been alluding. Iron has receded to such a ruinously low point that unless it can be produced cheaply it cannot be made at all without grievous loss. It follows that upon the power to produce cheaply the very existence of the British iron trade may now be said to depend, and as the power of cheap production has returned the trade has secured a continuance of life. Not only has this result been attained, but cheap production also ensures a market for the article produced. In the last year or two the depression of trade throughout the world has been so intense and so persistent that the influence of cheap production has been felt but slowly. Nevertheless, it has been felt at last, and cheap rails have encouraged the construction in India, Australia, New Zealand, and other parts of the world, of railways which might very possibly have not been otherwise undertaken. We think, then, that we may very fairly say that there are influences now happily at work which are calculated very materially to secure the future prosperity of the British iron trade.

We have omitted to notice one favourable influence which may, in our judgment, be very fairly brought into account. We refer to the stern experience and salutary lessons which the events of the last seven years have taught employers, as well as employed. In 1870 and 1871 industrial companies were projected by the score; and directed as many of them have been without judgment or experience, and in some cases it is also to be feared without integrity, they have proved in far too many instances disastrous failures. Another crop of victims may very likely spring up 25 years hence, but the present generation of capitalists must have profited by dear-bought experience, and must have learnt that the art of profitable iron making cannot be acquired all at once by a limited liability company. This may secure a reduction in the number of iron makers, and may check the evil of excessive competitive production.

THE SUPPLY OF COAL TO LONDON FROM YORKSHIRE.

[FROM A CORRESPONDENT.]

The colliery owners of South Yorkshire have been considering the proposal of Mr. J. Thompson, of London, which appeared in the *Mining Journal* a few weeks since, to carry coal from the West Riding by water instead of by railway, as is the mode at the present time. Mr. Thompson claims for his system of taking the coal in sacks filled in the Aire and Calder navigation, Goole, or Keadley, and then taken to sea-going steamers in the Humber, and taken to Sheerness to discharge. Could the proposal be really and practically carried out there is little doubt from the enquiries which we have made but that it would receive the hearty support of those colliery owners who are dependent on the Great Northern for the produce of their mines reaching the Metropolis. But there appear several difficulties in the way that will have to be shown capable of dispersion before the scheme can be entertained by those who are likely to be benefited by it in the event of its being carried out, dazzling as is the assumed saving of 7*s.* per ton in the carriage rate to the optics of our coalowners, who at the present time are barely able to make both ends meet. Nothing we may say would be of greater advantage to the coal trade of South Yorkshire than a cheap sea route to London, the result of which would be to bring down the rates of the Great Northern Railway Company, and in all probability a battle long and severe. From experience we know that the Great Northern is always ready to fight for its mineral traffic, and although the present rate by it from South Yorkshire to London is 8*s.* 3*d.* per ton we recollect that from April to the end of June, 1871, it was only 4*s.* 11*d.* per ton. But there is one very great objection that has been pointed out to us, and it is that all the leading collieries in the district to which we have alluded are not connected by canal or river with the Humber. The Silkstone collieries do the largest business with the Metropolis, for the house coal raised in them is superior to any other obtained in the inland districts, and so also are the gas nuts, which give as much as 11,000 feet of gas per ton. Now, at the Wharncliffe, Strafford, Clarke's, Dodworth, Barrow, Hematite, Rockingham, and Thorncliffe the coal has all to go by railway, as there is no water channel connected with them. Of the collieries working the next most important seam the Barnsley, the Darfield Main, Lund Hill, Pinder Oaks, Corton Wood, Blacker Main, Monckton Main, and several other collieries working the same bed have no outlet by water whatever, and the question then is how Mr. Thompson's system can be adapted so as to include them within its provisions. Railway companies make branch lines from pits on to their main system, and it can scarcely be expected that tram lines could be made from collieries to canals or rivers, for unless this could be done we do not see how the proposal to take all coal by water could be carried out. Certainly there are several collieries in South Yorkshire that have direct communication with the Aire and Calder and the Humber, but it would scarcely suit the purpose of Mr. Thompson to confine his operations to these, for if it were possible for him to do so then he would find that he would have to fight an uphill battle with the Great Northern, in which in all probability he would come off second best. This no doubt is a serious difficulty, and if it can be overcome then, according to those who would be most benefited by it, the proposal would be far more feasible. If it can be surmounted, well and good. But in penning these remarks we are guided by the views of the colliery owners in the locality whose interest it would be to see the scheme propounded by Mr. Thompson fully carried out.

THE BLANTYRE EXPLOSION.—In the House of Commons on Thursday, replying to Mr. Macdonald, Mr. Cross stated that he had caused a copy of the report of the Commissioners on the Blantyre explosion to be sent to every colliery in the district, and had instructed the Inspector to call a meeting of the colliery owners and to consult with them as to the steps to be taken to prevent accidents. As to the propriety of prosecutions in connection with the Blantyre calamity, he had been advised by the law officers of Scotland that no proceedings involving other than trivial fines could be successful, and, therefore, none would be instituted.

MINING IN BELGIUM.—The Belgian Chamber has rejected the proposal excluding females from work in the coal mines, and has adopted the Ministerial amendment fixing the minimum age of boys working in the mines at 12 and that of girls at 13 years.

CHARLES CAMMELL AND CO (Sheffield).—The directors of this company, which is one of the largest iron and steel manufacturing concerns in the country, met on Wednesday, and decided upon recommending a dividend of 6*l.* per share, which is equivalent to 10 per cent. This must be considered exceedingly satisfactory considering the depressed condition of the iron and steel trade, and shows that large profits can be made after all.

IMPORTANT DISCOVERY OF LEAD AT PARK VALLEY, BOW, NORTH DEVON.—Some 30 years ago, in excavating for stone on the estate of Mr. James Bartlett, the workmen discovered a solid branch of lead about 6 in. in width, causing a little sensation in the neighbourhood, and a number of farmers joined together for the purpose of working and opening up the lode. Mr. John Bibbings, the schoolmaster at Bow, was appointed secretary, and a practichl miner (with a small staff of men) was engaged, and it was not many months before upwards of 10 tons of excellent lead was raised from a shallow adit driven on the course of the lode, but here a difficulty arose; the ore, although increasing in width, was found to be dipping rapidly into the estate adjoining, belonging to Mr. Roach, who at that time most persistently declined (notwithstanding most liberal offers) to allow his ground to be broken up or undermined. The consequence was that the farmers in an independent spirit dropped the work, and allowed the captain to dispose of the lead raised to pay himself and the few outstanding accounts. On several occasions the captain endeavoured to persuade Mr. Roach to let him work the ground, but without succeeding, and for nearly 30 years this most promising piece of mineral ground has remained untouched, the adit and air-shaft fallen in, and almost forgotten but for the fact that from time to time the captain, who left England to conduct a copper mine in South America, would write over, making enquiries, and advising some mining friend to endeavour to take up the Bow Mine, and about six months ago Captain Hosking, of Newton Abbot, manager of Wheal Eleanor became acquainted with the facts, visited the place, and as a practical miner saw sufficient to justify his seeing further. He lost no time in finding out the old schoolmaster, who is living retired not many miles from the spot, and who was delighted to give some information of a most important character, which very materially aided Capt. Hosking, who, with a well-known gentleman of enterprise at Exeter, set to work and quickly overcame the prejudice of Squire Roach, who had become older and wiser. A license of both estates was granted on very liberal terms for 21 years by the owners to the two who have been quietly working with a few good miners to clear out and repair the adit and secure the air-shaft. They had not gone many fathoms before they discovered a small leader of clean lead running across the adit, and a few weeks back they succeeded in getting up to where the former workers were obliged to give out, and here the splendid discovery of rich ore was made in sufficient quantities to justify it being looked upon as most important. Nearly 2 tons of lead has already been brought out, and the owners of the sett are to be congratulated on the quiet and unostentatious way they set about opening up this entirely new district with such excellent results.

REPORT FROM CORNWALL.

Feb. 28.—Again we have nothing new to report; no change either in the appearance of the share market in the prospect of a better price for mining produce, or in the aspect of foreign affairs, so far as they have a bearing on our special interest. At the same time it may fairly be said that the hopeful feeling is rather on the increase, and that to all appearances now is a very good time for those who are inclined to invest. At any rate, there are those who hold this view, and who are prepared to act upon it.

The Barrow borer has scored one. At West Tolgus meeting Mr. Taylor announced that it was intended to employ that machine in that mine, and that an order had been given for five, of which four are to be kept at work and one held in reserve. No gentleman has so much practical experience in mining generally, and in all parts of the world, as Mr. Richard Taylor, and the fact that after trying so many borers as his firm have done he should select the Barrow is the highest testimony to the value of that machine which has yet been given. The Darlington is another that the Messrs. Taylor have in use, but for West Tolgus the Barrow is preferred. No one can say that machine boring is not making headway Down West now.

A curious and by no means unimportant illustration of the necessity of making investigation into statements made respecting the mining distress, which undoubtedly does exist, was supplied at the recent meeting at Botallack, where comments were made on the recent remarks of the Chairman and other members of the Penzance Board of Guardians. Mr. Field remarked that the Rev. T. J. Harrison, Chairman of the Board, stated that few miners in his parish were earning more than 10*s.* to 1*l.* per month. Such a sweeping statement he could not let go by without correction. There was not a mine in the parish of Ludgvan, where Mr. Harrison lived; but many of the men who worked at Wheal Sisters, a large mine in the adjoining parish, and of which he was purser, lived in Ludgvan. At Wheal Sisters they employed from 300 to 400 men underground, and he had gone through the wages list, and could positively state that the allegation was false. In the month ending Nov. 10 the men on tutwork averaged 2*l.* 19*s.* 1*d.* for the four-weeks month, and those on tribute 2*l.* 14*s.* 8*d.* In the next month the tutwork averaged 3*l.* 1*s.* 2*d.*, and the tribute 2*l.* 7*s.* 4*d.*; and in the month ending Jan. 5 the tutwork averaged 2*l.* 16*s.* 8*d.*, and the tribute 2*l.* 13*s.* The average of these three months gave 2*l.* 19*s.* per month for the men on tutwork, and 2*l.* 11*s.* 8*d.* for those on tribute, and estimating the working month (four weeks) at 22 days it was about 2*s.* 6*d.* per day. They paid their enginemen 55*s.* per month, carpenters from 18*s.* 6*d.* to 19*s.* per week, smiths from 65*s.* to 75*s.* per month, and their surface labourers from 50*s.* to 56*s.* per month. Some of their men on tribute averaged 5*l.* per man per month, and one pare averaged 7*l.* 4*s.* 11*d.* per man. In setting, the agents set so that with fair labour the miner could get 3*l.* per month. There were very few who got 1*l.* per month; if such cases were investigated it would be invariably found that the low rate was caused by neglect of work, or that the men were not able-bodied. At the last pay at Wheal Sisters they paid 1300*l.* for four weeks' labour. This was a very different state of things from that depicted by the Rev. Mr. Harrison. As far as he was concerned, if they could not afford to pay more than starvation wages, he thought the best thing was to shut up at once. Undoubtedly times were bad, but he failed to see the wisdom of making them appear worse than they really were, and he thought it a great pity that people, especially those in an official position, should scatter statements of that kind in such a broadcast manner without having investigated the facts. Moreover, so far as Botallack is concerned, Mr. James stated that the wages were being paid at the same rate as in 1865—the average of tutwork being 57*s.* 6*d.* per month, and of tribute 50*s.* per month, while Mr. Field added that at Wheal Sisters 100 more hands could be taken on.

The annual meeting of the Royal Cornwall Polytechnic Society, which was held at Falmouth on Monday, under the presidency of the president, Mr. Richard Taylor, F.G.S., shows that old established association to be in a flourishing state. The report of the committee sets forth that there had been an increase during the year in the subscriptions from the mines, seven mines having subscribed altogether 12*l.* 10*s.*, whereas East Pool had for several years previously been the only mine that assisted the Society. This extension of encouragement was due to the successful efforts of Mr. Taylor, the president. Members' subscriptions were 5*l.* short of the previous year, while the rent of the hall fell short by 30*l.* The amount taken for admission to the exhibition, although slightly under the previous year, was above the average. On the other hand the expendi-

ture had been considerably reduced, showing a decrease of 40*l.* in the cost of the report, and 34*l.* in medals, prizes, and cost of carriage of goods as compared with 1876. The financial position had, therefore, been fairly maintained, although 30*l.* 15*s.* had been spent in improving the ventilation of the hall. The report also dealt with the various departments in the exhibition, laying stress on the repleteness of the mechanical, which included the telephone, explained by the curator, Mr. R. N. Worth, F.G.S. In order to secure a better attendance of judges, and more regularity in their proceedings, the committee had retained on the list of judges the names of those only who had expressed an intention in writing to attend at the Polytechnic Hall on the judging day; and the committee had devolved on the chairmen of the respective departments the duty of communicating with the various judges for the purpose of securing a sufficient attendance and preparing reports. The committee regretted that after eight years' valuable co-operation as meteorological secretary they were now deprived of the services of Mr. W. P. Dymond, through serious ill-health, but Mr. W. L. Fox had consented to act as honorary meteorological secretary. The observatory accounts showed an adverse balance of 29*l.* 13*s.* 4*d.* Application had been made to the meteorological office for an increase of the grant, but without any success up to the present. The report of the Finance Committee showed that the receipts for the year had been 445*l.*, including 154*l.* from subscriptions and arrears; rent of hall and gas 103*l.*; admission at the exhibition, 93*l.*, and a balance brought forward of 55*l.* The expenses were of a miscellaneous nature, and reduced the credit balance to 48*l.* There were, however, subscriptions to the amount of 15*l.* due against the estimated liability of 12*l.*

Amongst the losses sustained by the Society by death during the past year the most noteworthy is that of Mr. N. W. Fox, F.R.S., one of the original founders. In the place of the four retiring vice-presidents there were elected the Earl of St. Germans, the Earl of Mount Edgcombe, Sir John St. Aubyn, M.P., and Col. Tremayne. The report of the Society for the past year, which includes the proceedings at this annual meeting, will shortly be issued.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Feb. 28.—It is unsatisfactory to again be unable to say anything of a cheering nature of the Iron Trade; clearances have, however, during the week been about up to the average. A large shipment—nearly 3000 tons—has been made to India, and others have been to Sweden and Brazil. No better prospects appear to be forthcoming for the rail department, very few orders are given out for this commodity, railway companies who are relaying or putting down fresh tracks preferring steel, both on account of its durability and its proportionate cheapness. There is little doing in bars either, and in this department the effect of Belgian competition is greatly felt. The Steel Trade is fairly active, the demand being mostly for rails. From one or two works the news is a little better. At Dowlais the Cuba mill has been lit up, and it is said that good orders for steel rails and iron plates have been secured here. At Tredegar the mills and a portion of the puddling department have recommenced operations. From Cardiff it is rumoured that the College Ironworks, Llandaff, may be re-started. The Tin-Plate Trade is a little more active, the demand is certainly better, and prices are firmer, though they have not yet altered materially. The Coal Trade is fairly brisk, rather more so than usual. The Government contracts given out have caused more activity at some of the pits, but, as a rule, these are irregularly employed. In one case the men employed at the pits of a well-known colliery proprietor worked only one day last week, and up to Wednesday this week they had not gone in at all. Under these circumstances distress must necessarily exist. The shipping trade has been fairly good; some large vessels have arrived a Cardiff, and during the last few days a fair quantity of best steam has been sent to Malta, &c., for the use of the British fleet. Prices are firmer, and freights are steadier. Iron ore continues to arrive in fair quantities at Newport. The demand for steam coal is moderately good, house qualities are still dull, and have been all the winter, but then the season has been unusually mild. A fair demand is apparent for anthracite. Patent fuel is quiet, but shipments have been larger.

The Union is now virtually non-existent in this district. A delegate meeting of the men has been held, when a long discussion took place on the desirability or otherwise of extending the time for conceding the 5 per cent. reduction beyond the three months which end on March 31. It was agreed by a large majority to continue the decrease, though the period was not named. The numbers were—for the continuance, 17,656; neutral. 2910; against, 6242. The reduction made at Aberavon has caused great dissatisfaction among the men, and at Blaenavon the men assert that the reduction made is really equal to 10 per cent.

The local railway meetings have passed off quietly, the shareholders evidently congratulating themelves in getting such good dividends—a 10 per cent, and a bonus of 1 per cent. in the case of the Taff Vale, and 6½ per cent. of the Rhymney, in the face of bad times. The Monmouthshire Railway meeting, which took place at Newport to-day, was a rather quiet affair. The attendance was not large, but the lack of interest is due to the fact that each half-year the shareholders have to go only to be told that minimum dividend of 6½ per cent. guaranteed by the Great Western, who lease the line, will be paid them. It must be very satisfactory to be assured of this amount, especially as the Chairman hinted the balance was against the company this half-year.

Our Swansea Correspondent writes:—"The trade of the port during the past week has been unusually brisk, and the coal exports have exceeded those of the previous week by nearly 5000 tons. The Tin-Plate Trade continues firm and active, the whole of the works in the district working full time. At the copper ore Ticketing, on Tuesday, 2539 tons were sold, realising 11,814*l.*; Vivian and Sons were the purchasers of 1216 tons; Williams, Foster, and Co., 502 tons; Copper Miners Company, 287 tons; Grenfell and Sons, 290 tons; Mason and Elkington, 240 tons; Landore Copper Company, 4 tons. I am informed that a large order for steel has been received by the Landore Siemens Steel Company, in connection with Government and the preparation of war material. There is increased activity in the shipping of the port, owing to warlike movements, and to the same cause may be attributed the large increase in coal exports."

REPORT FROM THE NORTH OF ENGLAND.

Feb. 28.—The position of affairs in the Cleveland district has not much changed during the past week. On the whole, trade has been quite as dull as it was during any one of the three previous weeks; but, notwithstanding the slackness of demand, makers continue to keep up by combination the price of pig-iron, which is now realising a value that enables makers to conduct their operations at a profit. This was proved by the statement of affairs presented to the recent meeting of the creditors of Thomas Vaughan and Co., the balance-sheet exhibiting a profit of nearly 2000*l.* on the working of the previous two months. Makers, however, continue to be very greatly handicapped by the large accumulations of pig-iron which most of them have on their hands, and which it is highly improbable they will ever be able to realise at a profit, considering how long it is likely to be in stock.

Arrangements are now in an advanced state for the ensuing annual meeting of the Iron and Steel Institute, which will take place in London on March 28 and 29. Attention is called to the matter here because I am authorised to state that Mr. I. Lowthian Bell, M.P., is to read another paper descriptive of the results that have attended his endeavours since September last to adapt the iron of Cleveland for the manufacture of steel. It is scarcely possible to exaggerate the interest now being taken in this matter. To Cleveland the ultimate solution of the problem at which Mr. Bell is working is a matter of the deepest concern, because now that the iron rail trade has gone there is no large home consumers of the pig-iron which the district produces so largely and so cheaply; while the price at which Cleveland steel could be produced would defy competition. We are likely to have a lively discussion on Mr. Bell's communication, whatever its nature may be, seeing that several other gentlemen are now claiming to have done all that he has attempted and achieved long before him.

It will interest your North of England readers to learn that Mr. David Dale, of Darlington, is to be the next President of the British Iron Trade Association in succession to Mr. G. T. Clark, of the Dowlais Works. Mr. Dale has long been closely identified with the various matters which it is the purpose of the British Iron Trade Association to promote, and his election is likely to be generally approved.

The stock of pig-iron in Connal and Co.'s stores, at Middlesborough, is now about 50,000 tons. Up to the present time the shipments of pig-iron from Middlesborough to Scotland have been about 5000 tons less than those of the corresponding period of 1877. The shipments to foreign ports are also below the average for the time of year. The Star Rolling Mills, at Middlesborough, have been stopped. The works were of small extent, and engaged chiefly in the manufacture of merchant iron. Messrs. B. Samuelson and Co have blown out another furnace at their Middlesborough works. The Cleveland Slag Working Company (Limited) are not able to declare a dividend for last year. The company is, however, now making a large quantity of bricks, concrete, and cement from the slag refuse turned out of the Cleveland blast-furnaces. The directors of the North of England Wagon Company (Limited), at West Hartlepool, have decided to stop the works, as the further loss in working on the last seven months has been 2624*l.*

In the Coal Trade the position and the outlook remain extremely dull. With the resumption of the pits in Northumberland after the prolonged strike of the miners the aspect of affairs has rather improved, and the demand, on the whole, has been tolerably good, a large number of foreign vessels having put into the Tyne for cargoes of steam coal. The impending opening of the navigation season will be likely to quicken somewhat the pulse of the coal trade. In reference to home consumption, however, the position of affairs is still very unsatisfactory. The reduction of the make of pig-iron in Cleveland has limited the demand for coke; which, however, keeps up its price, and is still as remunerative as any branch of the trade. Best coke is quoted at 12*s.* to 12*s.* 6*d.* per ton delivered at furnaces on Tees-side.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Feb. 28.—The Coal Trade is no worse than a week ago—of the two, indeed, it is slightly better. The mineral is abundant and cheap. The Pig-Iron Trade displays little alteration—the demand is dull. The slight revival in the Finished Iron Trade is fully maintained, and prices are mostly firm upon the basis of 8*l.* 10*s.* for marked bars.

Of much importance to this district is the circumstance that at the Hamstead Colliery sinkings the same stratum of limestone (spirorbis carbonarius) has just been passed through at a depth of 180 yards as was passed through at the adjoining Sandwell Colliery at a depth of 123 yards. This new feature in the sinkings further confirms the certainty that coal exists at Hamstead. It would appear, however, that some 300 yards have yet to be sunk before the measures are struck, seeing that at Sandwell coal was found at that distance below the limestone. The discovery will add to the known value of the Sandwell undertaking, inasmuch as there can now be little doubt of the existence of coal throughout the whole of the take. The finding also demonstrates that the Warwickshire coal field comes up to the Eastern fault, which limits the old Staffordshire coal field in that direction, though the dip indicates a convulsion that may make the ground irregular for some distauce.

The Earl of Dudley's powerful pumping-engine, which is subsidised by the Mines' Drainage Commissioners, but had recently been stopped, has now been re-started. The resuming of pumping will result in the keeping open somewhat longer than had been feared might be the case of certain colliery workings in the Highfields locality at Bradley, near Bilston.

Since my last report the shares of the Sandwell Colliery Company have been sold for 2 premium; the property of the Chapel House Colliery has been bought for 2*l.* 15*s.*; and the shares of the Chillington Iron Company at 6¾ dis.

The trustees of the Hartley Colliery Relief Fund in this district propose to distribute every six months half of the interest (120*l.* per annum) resulting from the investing of the principal of the fund (now amounting to 3306*l.*) amongst the widows of colliers killed while at work during the half-year. A meeting of the general subscribers is to be held to sanction the scheme.

The year's working of John Bagnall and Sons (Limited) has resulted in a loss of 13,245*l.* after writing off 4413*l.* for depreciation, 4502*l.* for debenture interest, and 1480*l.* for legal charges. The output of the works has only been one-third of its capacity. The collieries suffer from short hours, the Mines Regulation Act, and Mines Drainage rates. A scheme for the paying off of debentures, which fell due on January 1, and with objects of a kindred character, will be submitted at the annual meeting.

In North Staffordshire the finished iron trade is improved, and a corresponding revival is experienced in the demand for pigs. The coal trade is without change, supplies being abundant and cheap.

The Spon Lane Colliery Company third annual meeting was held on Monday at West Bromwich. The directors could not announce the striking of the Thick coal, owing to the extreme hardness of the rocks through which the latter portion of the roads had to be driven. It was stated that coal would be reached in about five weeks. Major H. Williams and Dr. Underhill were re-elected directors; and arrangements had been made with Mr. J. B. Silvester to resign his seat at the board, and to accept the office of secretary. A discussion took place relative to the payment of 1500*l.* to the directors, and they agreed to give up 1000*l.* on account of the misunderstanding that existed with reference to the time when the payment should begin.

THE TRADES OF BIRMINGHAM—MUNTZ'S METAL COMPANY (LIMITED).—It was announced in the papers last week that this company will pay 10 per cent. and a bonus of 2½ per cent. out of the last year's profits, and carry a large balance forward in spite of the general depression in the trade of this county during the last year. This company have made their usual quantity of yellow metal—about 7000 tons. The directors appear determined to hold the proud position they have so long held by keeping the margin of profit upon the manufacture at so moderate a rate as to prevent any other makers taking their trade. This company bought the business from Mr. G. F. Muntz, who is still one of the directors, his brother, Mr. P. A. Muntz is managing director, the other directors, Mr. J. Jaffray Chairman, Mr. H. Wiggin vice-Chairman, Mr. W. Middlemore, Mr. S. Barker, and Mr. G. Heaton, all well-known for their good business judgment. Since the formation of the company the goodwill—50,000*l.*—has been paid off out of profits, and large sums written off the works and machinery. Should the use of the yellow metal cease to-morrow, the stock of metal if sold would pay the shareholders and creditors 20*s.* in 1*l.*

ELECTRIC LIGHTING.—A party of gentlemen met at Messrs. J. Scott, Rawlings, and Co., engineers, of Lionel-street, on Friday, to witness the gas-lighting apparatus of Dr. J. Siemens. The experiments were conducted by Mr. Frank Scott, on behalf of a company which has been formed under the title of the Dynamo-Magneto Lighting and Photographing Company (Limited), and the object of which is to develope Dr. Siemens's invention, and bring it into popular use. The apparatus, which was exhibited at the Midland Institute Conversazione, consists of a new dynamo-electric machine, which, with very small horse-power, supplies an intense and continuous current of electricity, and of a lamp with a partially automatic adjustment of carbon points. The apparatus at present is more particularly adapted for lighthouses, ships, and large works, but it is subject to the disadvantage that the lamp requires constant attention. Mr. F. Scott is, however, contemplating the patent of a new lamp, which shall be independent of carbon points, and be entirely automatic. It is stated that this lamp will be suitable for street and house lighting. The company propose to supply lamps and electricity to the public, much in the same way that gas companies supply gas and fittings, and they also intend to establish studios, where photographs can be taken at any time, or in any state of the weather. The light furnished by the apparatus is very rich in chemical rays, and photographs are taken more quickly by it than by the light of the sun. At the exhibition it was shown that a small machine, worked at 2½-horse power, would create a light equal to 7000 candles, and that at a cost of about 2*d.* per hour, exclusive of attendance to the lamp, which, as stated above, will be obviated by the new lamp to be exhibited shortly.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Feb. 27.—The memorial to Sir W. W. Wynne, Bart., M.P., concerning the conservation of the River Dovey and its tributary streams has met with a favourable consideration from him. In a long and courteous reply to the memorialists by Sir Watkin's chief agent, Mr. Owen Llaney Wynne, the latter expresses Sir Watkin's desire to reconcile, if possible, the rather conflicting interests of the mines and the fisheries. While desirous of preserving the purity of the stream he expresses himself fully aware that the staple industries of the district are connected with the mines. He promises such a modification of the fishery regulations as shall in some measure relieve mine owners from harrassing prosecutions, and at the same time he asks them, by adopting every precautionary measure, to turn the streams used in washing the ore as pure as possible into their ordinary channels. This is, of course, the desire, as it is to the interest, of every mine owner and manager. Still, like the poor tailor's boy who "could not have all his enjoyments together," it is to be feared that we cannot have a productive mining region and productive salmon and trout stream together, for a very small portion of deleterious matter finding its way into the sources of a river from many mines in the higher regions of a water-shed must, unless the volume of water be very great, make the stream unfitted to sustain animal life. I am afraid, therefore, that the hope expressed by local newspapers that the rivers Rheidol and Ystwith, which have their sources in the peat of the Cardiganshire mining district, will soon be good salmon rivers, is not likely to be speedily fulfilled.

The men at the Padeswood Collieries who object to the new rules of the Staffordshire chartermasters are to be brought into submission, it is said, by the introduction of colliers from South Wales. Thos. Hughes, a collier at Brynknallt Colliery, had his foot crushed the other day as he was descending the shaft, through allowing it to be outside the cage, where it was struck by a pump-rod. Neither the coal or iron trades of the district show any signs of improvement as yet. The new industry of railway wagon building and repairing is making strides in the district. The Midland Wagon Company have taken the extensive works built at Shrewsbury some years since, for the use of what was going to be the West Midland Railway system. These works have been lying idle and deserted for about 10 years. Two local companies have also opened works between Wrexham and Mold—the North Wales Carriage Company and the Flintshire Carriage and Wagon Company; these at present employ about 100 men. The fire-clay works of the district are working well. The growing science of sanitation creates an ever-growing demand for pipes and all kinds of sanitary ware; this is supplemented by the increased attention now given to agricultural drainage, and the revived taste for mediæval architecture has given an impulse to the manufacture of roofing tiles, which are largely made from the red clays of the Permian.

The production of slates in Carnarvonshire and Merionethshire is said just at present to be in excess of the demand, and the quays at Porthmadoc, Carnarvon, and Dinorwic are filling with stock. This extra stock will, doubtless, be cleared as soon as the ports of the Baltic are opened in the spring, but quarry owners are taking advantage of the lull in the trade to reduce the wages paid to the men, the choice for the men lying between accepting the reduction or having the bargains closed. With some reluctance they have chosen the former alternative. This is not general, and so far the action has been confined to the quarries of the Bangor and Carnarvon Slate Company at Nantlle, although it is said that the owners of Cilgwyn and Talysarn Quarries are about to follow the example. At the monthly lettings of bargains at Penrhyn Quarries the men have accepted them without any further objection to the new regulations respecting time. The quarries doing a home trade are all busy.

Mr. T. Evans, F.G.S, Her Majesty's Inspector of Mines for North Wales, on Tuesday read a paper before the Manchester Geological Society on the Parys Copper Mines of Anglesea—[the particulars of which appear in another column of this day's Journal.] This is a desideratum, for we have need of a concise and intelligible description of this famous and extensive deposit of copper ore.

The paving sett trade keeps good, and from the growing demand for small sets for the paving of street tramways now increasing so extensively, it is likely to continue brisk.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Feb. 28.—Business generally in the mining and iron districts of Derbyshire is particularly quiet, and a large number of men are still but partially employed. At the lead mines there has been less change than in other branches, but that at one time most important industry is not only not being cultivated, but looks as if it were dying out. Some of the mines that a few years ago raised large quantities of ore are now entirely closed, and only one or two new ones are being opened out, the success of which or otherwise is for the future to disclose. The collieries are by no means well employed, and the men at several of them have been obliged to accept a reduction of wages, whilst at others the men are under notice, and at one place the colliers have struck. At Pilsley and the district, as well as at Ripley, the mines are by no means well employed, whilst the Butterley Company, the most extensive owners of collieries in the county, have given their men notice of another reduction of wages, they having recently submitted to one. At some of the collieries of the company, more particularly in the Ripley district, the men have been working but little, so that a good deal of privation exists in consequence. The business doing with the Metropolis in house coal has fallen off, whilst prices are low and by no means firm. To the West of England a moderate tonnage is being forwarded, as well as to places the other side of Birmingham on the route of the Midland line of railway. Steam coal does not go off any better, the busy season being a considerable way off yet. The make of pig-iron keeps up very well, and whilst the local consumption is tolerably fair the demand for other localities is still very moderate. Most of the foundries are working steadily, whilst there is the same activity with respect to Bessemer rails that there has been since the year set in.

The acceptance last week by the puddlers and millmen at the two largest works in Sheffield—the Atlas and the Cyclops—of a reduction of wages to the extent of 7½ per cent. has been followed by increased activity. At the Atlas in particular all the old hands have been put on full work, whilst a considerable number of new men have also been put on, whilst some additional mills have been set going. In armour-plates the production is still moderate, seeing that our Government is of opinion that iron by itself is not so good as an amalgam (say) of steel and iron, so that experiments with the latter are now being made. Bessemer rails are as busy as ever, and attention has been drawn to the fact that the net profits of Brown, Bayley, and Dixon for the year 1877 was close upon 30,000*l.* It has been stated in the Journal that Messrs. Krupp, of Essen, have boasted of turning out 360 tons of Bessemer rails in a day, but it appears that the former firm have produced no less than 380 tons in an ordinary day. In cast-steel there is not much alteration, some of the houses doing a fair business in certain special qualities, whilst others are quiet. Makers of tyres and axles have been doing very well, so have those engaged in buffers and some other descriptions of railway material. In the heavy branches of trade, however, there has been no improvement whatever, so that a good many men are still entirely idle. The file makers are still quiet, and the notice of a reduction of wages in one department has been withdrawn on the representations of the men. At the foundries a steady business is being done in light work, such as stoves, grates, and fittings, but there is not so much doing in heavy castings. Colliery owners still complain of the difficulty experienced in selling house coal, the competition which prevails, and the low prices that have to be taken. The mild weather has

also been against them, and the London trade in particular has fallen off of late. In steam coal no improvement has taken place, and the same may be said with respect to engine fuel, slack, smudge, and coke. The result is that nearly all the collieries are on short time, and are likely to be. Despite the prevailing depression, too, new collieries are cropping up in all directions, and only on Friday last the Barnsley seam of coal was reached at one near Rotherham that will ultimately be able to produce 1000 tons a-day. As the same thing is going on in other districts, it may well be asked how it is possible for the coal trade to improve when our present productive power is more than 25 per cent. in excess of our requirements, and that percentage increasing almost every week?

A meeting of the creditors of Mr. E. De Grey Bower Smythe, of the Oakwell Colliery, near Barnsley, was held in London, on Thursday. The liabilities are close upon 50,000*l*., and the assets rather more than 14,000*l*. The colliery is quite a small one, the seam of coal being only about 3 ft. thick; but it was bought during the mania, and now scarcely one practical man could be found who would have it as a gift.

Mr. Mundella, M.P., having been appointed referee with respect to the dispute at the Corton Wood Colliery, near Barnsley, on Monday he met the representatives of the owners of the mine and of the men, but the matter was adjourned,

It is expected that on Monday next there will be a meeting of members of the South Yorkshire and North Derbyshire Miners Association at Sheffield for the purpose of coming to an agreement for a reduction of the miners' wages throughout the two districts.

STRANGE PROCEEDINGS AT A COLLIERY COMPANY'S MEETING.—A singular scene took place at the half-yearly meeting of Messrs. Henry Briggs, Son, and Company (Limited), Whitwood and Methley, near Leeds. Twelve years ago this company was started on co-operative principles, with a capital of 90,000*l*. The average dividend since that time has been 13¼ per cent. The latter, however, was discontinued some time ago. Yesterday, the chairman of the company (Mr. H. Cutler Briggs) announced that the result of the half-year's working would have admitted of some dividend, but the directors thought it more prudent to postpone any such payment until they had got through the expensive and difficult process of taking stock at the end of the financial year in June. Mr. Fairbank, one of the shareholders, complained of the way in which the directors were treating the shareholders. They had only recently made a call, and he thought the money the directors admitted had been earned ought to have been paid in dividend. This was, indeed, a strange proceeding in the case of what had been held forth as a model colliery, which had been lauded before the world, had been the subject of pamphlets by literary men, and of songs by poets, and had been much talked of not only in this country but on the Continent. A miner employed in the works, who was also a shareholder, said, in reference to a remark, that more economy should be exercised, that his wages had been reduced 40 per cent. during the past two years, and he was suggesting the advisability of "pruning the salaries of the officials" when the Chairman interposed, saying the reporters must shut up their books; he could not have that going forth to the public. The shareholder was proceeding with his remarks when one of the clerks of the company drew attention to the fact that the reporters were still taking notes. The Chairman thereupon started to his feet, and in an imperative tone told the reporters that if they did not obey his directions they must at once leave the place. One of the reporters said the meetings of the company had hitherto been open to the Press, but if this one was not open the representatives of the Press would at once retire. The Chairman: Make your choice; either do as I tell you or go. Open that door for them. The reporters retired.

TRADE OF THE TYNE AND WEAR.

Feb. 27.—The shipments of coal at the Northumberland and Tyne docks during the week has been large, the demand for steam and gas coals having been considerable; but the supply of shipping has been ample, and already there are complaints of a dearth of orders amongst shipowners. The increased demand for most of the products of the district, which was so apparent after the signing of the armistice, has to some extent subsided; or, at any rate, it has scarcely been kept up, as there is still a total want of confidence that peace will be secured; and until this is settled there will be an absence of enterprise in all branches of trade. The Chemical Trade, which is very extensive in these rivers, is in a most torpid state, and prices are very low for all products; it is fortunate, however, for this branch of manufacture that most raw materials are cheap, coal and iron can be had at low rates, and salt, which is largely used in chemical works, has also been reduced in value, and it has been sold here the week at 15s. 6d. for delivery over the year. The demand for coke and for house and other coal is but moderate in Durham, and many of the works are only doing short time, and more works are to be stopped. It appears that at Haswell all the men and boys have received notice, and it is expected this old and very fine colliery will be stopped. The Hutton seam was found at this place in great perfection, and an enormous quantity of excellent house coal has been got there during the last 30 years.

At the Whitburn new coal winning fair progress has been made with sinking of late, and the shaft has been completed to the full size, 26 ft., and this now progresses at the rate of 2 ft. per day. Great difficulties have been met with, but those have been overcome, and it is now expected that rapid progress will be made, and the shaft completed down to the bottom of the water-bearing strata in a few months.

Extensive Government orders are expected at Jarrow and other works on the Tyne for war material, vessels, &c. During the past week rumours to this effect have been in circulation, but up to this time (Wednesday) no actual orders have been received at Jarrow, but at Sir Wm. Armstrong's works, at Elswick, they have extensive orders for torpedoes; 800 of these destructive machines have been ordered, and the order is described as of an urgent character. This has put the ordnance department of the Elswick Factory into a state of great briskness, and in some parts of the works double shifts of men are employed.

An inquest has been held touching the death of William Thompson, a deputy-overman, who died from burns he received in an explosion that occurred at Pontop Colliery, belonging to the Marley Hill Coal Company. Thompson, who along with another deputy-overman had charge of the district where the explosion occurred, had been ordered to use safety-lamps, on account of gas having been found previously in the district under their charge, and a caution had been put up warning persons not to go on the in-bye side of it. In spite of this Thompson, along with two men, went into the workings with naked lights (candles), and deceased went through a canvas door leaving the two men on the other side of it. Shortly after the men saw the door lift up, and one man shouted to the other to lie down; before it could be done, however, they were blown away, and received severe burns. Thompson a short time after died from the injuries received. The Coroner, in summing up, said the deceased had caused the explosion by his own negligence.

A general meeting of the members of the North of England Institute of Mining and Mechanical Engineers will be held on Saturday. A number of gentlemen connected with the coal and iron trades in various district in England and Wales stand for election. The following papers will be read:—"On increased economy in the Manufacture of Coke by Mechanical Means," by Mr. Webb-Harle; "On the Perran Iron Lode in Cornwall, and the Mines in the District," by Mr. Charles Parkin. The following paper will be open for discussion:—"Description of an Instrument for levelling Underground," by Messrs. T. Lindsay Galloway, M.A., and C. Z. Bunning.

It appears that large orders have been given by the Government lately for Welsh steam coals, and a deputation of northern coal-owners and members of Parliament is to wait upon the First Lord of the Admiralty on Thursday, with a view of inducing him to send some portion of the orders that are now being issued for steam coal to Northumberland, and not to give them all to Wales.

THE ELECTRIC LIGHT SUPERSEDING GAS.—Experiments have just been made at the School of Military Engineering with a new electric light. There were a large number of officials present to witness the experiments, among them being Admiral C. Fellowes, C.B., Admiral-Superintendent of Chatham Dockyard. The apparatus producing the light was fitted up in one of the workshops in the Royal Engineer park and was worked by machinery. The light produced was most brilliant and the experiments in every way successful. The apparatus is to be further tested at the dockyard, where it will be fitted up in one of the largest workshops, so that its powers may be fully ascertained. In all probability the light will be used for lighting up the large workshops in the dockyard instead of gas.

TECOMA SILVER MINING COMPANY—No. II.

In continuation of the article contained in last week's Journal, we believe we shall not be exhausting the patience of our readers by a reference to the further subjects of interest in our possession with regard to the above mine. Much has been said heretofore, *pro* and *con*, but nothing of so confirmatory a character has been revealed in connection with the property bearing the above title as the facts which have by mischance placed themselves before us for research, and, in consequence of the vast amount of money involved, affords us the pleasure to fully describe.

Our previous number contained, as a preface, a greater position in a financial point of view than the present will lead the interest of perusers in the welfare of the company. When the subject matter of this one has been stated, we trust our subscribers will arrive at a just conclusion that the task which we have set ourselves to take up is one worthy of attention, not thinking twice, or to repair a foregone judgment against a revived one, that the sketch herein depicted bears the ground of more hope, or that the present be a delusion, will be the inducement for our endeavours to make clear everything in the order of information furnished by a recently arrived American visitor to this country.

Firstly, to speak geographically of the mine, it will be found situated at a distance of 10 miles from Tecoma Junction, one of the stations of the Central Pacific Railway Company, the directors of which, in the expectation of traffic from this source, were induced to erect a depôt *en route*, accommodating the same with siding sheds, warerooms, weighing-house for mineral, and expensively manufactured hoists. The elevation of the mine is 9000 ft. above the sea level, and commands great prominence in the midst of a huge plain, surrounded by the rotting carcases of numerous animals, large stones, and the herbage of a wild desert. The peculiarity of the locality has placed the property at a great disadvantage in connection with water-power—a consideration of the utmost importance in mining ventures. To supply the needful, which is obtainable only at a distance of about 3¼ miles from the mine, humectation is obtainable only by the use of manual labour, for which the costly sum of $5 per day for the supply of a few gallons has to be paid. In such domains it is apparent that working capital is entrenched to a degree beyond the estimate first made, and it is, therefore, upon this score that the earliest subscriptions have been insufficient, a detail which we shall more fully hereafter investigate.

According to the experience of the employers of the western hemisphere the present is an advantageous time to engage the mechanic and miner, as they are now on the look out for contract employment during the summer season after a comparative idleness on the closing of the winter. It is obvious, therefore, that the thrifty classes can be but the masters of their situation to enable them to live above ground unemployed; hence the desirability of securing the services of the most intelligent is an object which occupies the attention of the directors of this company.

Full details respecting the scientific working of the mine, together with a plan of the sections, will appear in next week's Journal. In the meanwhile, we may state that the reports from strangers who have visited the mine, and from other independent sources, continue to be favourable. The chairman (Mr. Charles Coles Adley) will, probably, proceed to Utah in the course of a week or two, and on his arrival there we shall have further particulars to publish.

Original Correspondence.

SOUTH DE ERESBY MOUNTAIN LEAD MINING COMPANY

SIR,—In the Journal of Jan. 26 it is stated on page 86 that the South De Eresby Mountain Mining Company is *not* established for working a mining company on De Eresby Mountain. Will you allow me to point out that this statement is erroneous, and that a reference to the prospectus, which appears in another page of this day's Journal, will show that not only is the South De Eresby property on De Eresby Mountain, but that the lodes of South De Eresby are identical with those of De Eresby Mountain Mine. J. SMITH, Sec.

14, *Queen Victoria-street, March* 1.

FLAGSTAFF MINING COMPANY.

SIR,—After perusing the letters inserted in the Journal last week from Mr. Manbey (director of the company) and Mr. Pearson, until recently a director, I am surprised when I think to what a depth of distress and degradation the once great Flagstaff Company is being reduced. Cannot the shareholders arouse themselves from this apathy and indifference, and wrest the administration of the affairs of the company from the hands of those who, if the public expressions of English gentlemen are to be credited, should be placed in that category it is not parliamentary to name? Cannot we find among the 800 English shareholders gentlemen possessing sufficient talent, ability, and honesty to warrrant such a judicious selection as would release us from being favoured with the attention of such of our American friends—save the mark—as have neither the necessary personal influence nor pecuniary means for the position of directors, but who seem to be actuated in their dealings towards us as mere puppets, and worked by strings as pulled from the regions of George-street Mansion House, and Hercules-passage? Personally I cannot absolve Mr. Pearson of all blame for sacrificing us to the greed and brag of an interested clique, no matter what, in appearance, honourable assurances may have been given him as to the commanding financial assistance to be immediately placed at the disposal of the company. Have any of these promises been fulfilled? Aye, had the honourable men themselves at the time any valid reason for such statements? Were they not only too anxious to rid themselves of a gentleman who was well acquainted with their machinations, and who was the determined enemy of an unscrupulous syndicate. What is the result of these promises dinned at random into our ears in sententious tones and in stentorian vociferations? We find the value of our property so depreciated that the shares go a-begging at 6*s*. 8*d*. When I consider, Mr. Editor, that I gave from 13*l*. downwards to 3*l*. for my shares, I may be excused if I should not regret the removal of foreign interference at our councils. I have no faith in Mr. Vincent, and this circumstance may be easily explained when I inform you that I am an original shareholder in the Quebrada and the Newfoundland Mining Companies, whilst the peculiar orthographical eccentricities indulged in by another member of the board does not conduce to esteem. When in the City this morning my broker informed me it was currently reported that another American, who has been bled pretty freely lately, is to be a director, and that the eminent firm of Torr, Janway, Torr, and Co. had intimated to the present board that their connection as solicitors to the company must now cease, declining to be mixed up with such questionable proceedings as are now being conducted. Can this last blow be true? if so, the meaning is quite intelligible to the very dullest comprehension. ANTI-AMERICAN.

FLAGSTAFF MINING COMPANY.

SIR,—I see in your last week's Journal a letter by Mr. Pearson, in which he alleges that I have "dishonoured" an engagement which I gave for 60*l*., owing by the company. Will you allow me space to say that Mr. Pearson's statement is wholly uncalled for and unjustified. By a misunderstanding the amount aliuded was not paid till three days after the solicitor understood it to be forthcoming, but it was then handed him. I would strongly advise Mr. Pearson not to bandy the word "dishonoured" until he can assert that he has himself no claims owing in the City, which I can scarcely anticipate he will do, inasmuch as the liquidator of a late Lombard-street bank has within the past few days been at the Flagstaff office instituting some enquiries. As this subject is likely, from what I understand, to be broached at the meeting to-morrow, I shall not say more of it here. But Mr. Pearson should certainly steer clear of the word "dishonoured," as I at present understand his matters.—*March* 1. M. C. VINCENT.

FLAGSTAFF MINING COMPANY.

SIR,—In reply to Mr. Manbey's letter in last week's Journal respecting Flagstaff matters and myself personally, will you kindly allow me to say that the impression which he seeks to impart—that there is a want of harmony at the Flagstaff board among the directors other than himself—is entirely without foundation; in fact, Mr. Manbey himself is the only disturbing element at the board. Some of his insinuations are really too trivial for serious treatment, but there are others which call for distinct reply. He says, for instance, that I gave Sir Leopold Heath a promise that I would resign my seat as a director. This is untrue; Sir Leopold Heath never exacted such a promise. On the contrary, he has just sent me his proxy, which I intend using at the forthcoming meeting for removing Mr. Manbey. Mr. Manbey also most unfairly alludes to a share transaction of mine, which he attempted to make capital out of at a former meeting of share and debenture holders. As I have given not only an explanation but the history of the transaction in a detailed letter in the Journal of Dec. 11 last, and since then by circular to all the shareholders, Mr. Manbey's unprincipled conduct in insinuating that I decline to admit the transaction must be evident. My subscription, which Mr. Manbey refers to, was on the same terms as the others—conditional on a certain amount being made up—and will be duly paid when the said sum is fully made up. Mr. Manbey further states that I am a foreigner. This I also admit; I am an American. An American who has for 20 years made his continuous home in London, who has for a dozen years enjoyed the honour of a Life Fellowship of both the Royal Geographical and Geological Societies; but above all, perhaps, an American who, with millions of other right-minded Americans, appreciates with profound thankfulness and pride that glorious old England is the mother of his own great and beloved nation. I will only add that my best efforts have always been directed towards the prosperity of the Flagstaff Company, while I sincerely feel that Mr. Manbey's action has, from first to last, been directly to retard those interests. M. C. VINCENT.

127, *Strand, March* 1.

FLAGSTAFF MINING COMPANY.

SIR,—Being a shareholder I have recently had occasion to enquire into certain matters relating to the Flagstaff Company, and shall be glad of a small space in the Journal to state the result of such enquiry. So far as I can judge—after taking great pains to hear all sides of the present contest pretty fully stated—the present board are working with one object in view, every act and every effort they have put forth bearing upon the face of them evidence of faithfulness to the interests of the company; and, strange to say, among all the sinister movements against the action of the board, and all the enemies they had to contend against, not one accusation can I hear of against the motives by which they are actuated. It is by no means surprising, in the face of so much persistent opposition, that the board find themselves still without complete success, but it is hoped at the forthcoming meeting the expressions of rebuke on the part of the shareholders will be so emphatic and decided as to silence the opposition, some of which when it comes fully to light, as I learn it is likely to do at the meeting this week, will, I think, be denounced in no very mild terms.

I am compelled to add a word as to what was mentioned by one of your correspondents last week respecting Prof. Vincent. For the past eight years he has had an office at my establishment, 127, Strand; I have known him intimately for the past 14 years, and am astonished that anyone should pretent to assail him in such a manner. As to the question of "entrusting subscriptions to such hands," I may state that it was only through my long personal knowledge of him and his trustworthiness that I was induced to take shares and to subscribe towards helping the company from its present difficulties. If all the money which has in times past gone into the coffers of the Flagstaff had been "entrusted to such hands" the company would be in a vastly different position from what it is at present. G. W. BACON.

FLAGSTAFF MINING COMPANY.

SIR,—Mr. Manbey states (in his letter in last week's Journal) that I have never been properly elected a director; but having taken competent legal advice, I can assure him that my election is perfectly valid. He also states that I have asserted in his hearing that I was totally unable to assist the company financially. This statement is totally devoid of truth. Mr. Manbey's main object in remaining on the board appears to be to use every means in his power to prevent the other directors from raising funds to keep the company out of the winding up court. In this he has been thus far unsuccessful, and his friend Mr. Pearson has, therefore, been prevented from carrying into effect his winding-up scheme, which I believe would annihilate the interests of the shareholders were he to succeed with it. I think, therefore, the meeting on Saturday next will do well to remove this element of discord from the board, and thus relieve the directors from further annoyance from this remnant of the Harvey and Pearson clique. E. APPLEGARTH.

Great Winchester-street Buildings, March 1.

FLAGSTAFF MINING COMPANY.

SIR,—Referring to a letter in last week's Journal from Mr. W. J. Manbey, in which he represents my views as not in accordance with those of my colleague, Professor Vincent, I shall be obliged if you will allow me to correct the impression it is likely to convey. I have been prevented by illness for several weeks past from attending the board meetings, and have never expressed an opinion that Mr. Manbey "was quite justified in attempting to prevent Mr. Vincent from issuing any more of the company's debentures," but requested that every shareholder should be acquainted with the state of the company's affairs before subscribing money, which I am informed has been done. Notwithstanding the constant attacks directed against Professor Vincent by Mr. Pearson and his confederates, I believe him to have worked hard and honestly to save this company from the wreck to which others had determined to reduce it: and I may add I have always given him my hearty support to attain this end. Mr. Manbey professes to be devoting himself to the interests of the shareholders, but I am convinced he could not serve them better than by tendering the resignation he promised. J. GARNE,

London, March 1. Director of the Flagstaff Mining Company.

[For remainder of Original Correspondence see this day's Supplement.]

ECHOES FROM THE MINING MARKET.

We think that there has been a rather better feeling apparent in the mining market during the past few days, not that prices have as yet advanced, but the disposition to invest, especially in lead shares, is stronger than it was a fortnight since. Until the Eastern war, however, has been brought to an actual conclusion we can scarcely expect any very substantial or permanent improvement. We may state that it is the opinion of many that should England drift into war the price of lead would rise. For ourselves we would sooner trust to the power of peace to advance the market than to any temporary demand arising from a state of war.

It is officially announced that the Chairman of the Flagstaff Company is about to retire from the board. An extraordinary meeting of shareholders will be held to-day at the Cannon-street Hotel, to authorise the directors to increase the capital by the issue of 25,000 10 per cent. 1*l*. preference shares, redeemable at 25*s*. at any time upon three months' notice being given by the company, such shares to rank in respect of both principal and interest before the ordinary share capital of the company. As will be seen, this scheme to raise the needed additional capital is in accordance with what we foreshadowed in these columns some weeks back. The resolution does not state, however, whether the preferential dividend is to be cumulative or dependent upon the profits of each separate year. Doubtless the question will be asked at to day's meeting. It is also proposed to elect four new directors. The shares close flat at ½ to ¾.

We understand that the Court of Chancery has rejected the proposed scheme of amalgamation between Van Consols and Glyn, as agreed to by the respective shareholders, and that the latter have been given until the middle of the present month to submit an acceptable scheme.

D'Eresby Mountain shares have been very strong during the week, and the price appears to be fast hardening. The few shares that have come upon the market have promptly found purchasers for investment, and we expect to see the quoted price higher before many days are over. We are informed the mine continues to look very well, and the Gorse lode continues its excellent yield. Considering how very few shares could be obtained, even at 60*l*., should a moderate buying order be placed upon the market we should be in no way surprised to find the quotation run into three figures at an early date.

The Roman Gravels meeting has been fixed for the 3rd prox., when a dividend is confidently expected. We hear that a dividend will be paid in Leadhills early in April also. Van shares have fallen considerably during the week, but we understand the mine looks well, and is as productive as ever. "Market movements" probably account for the fall.

Tin shares have shown a trifle more firmness. Still, so far as the public are concerned, shares are almost totally neglected, and without wonder, when we find that Carn Brea, although it has sold 309 tons of tin ore during the past quarter, has only managed to make the bare profit of 10*l*. The result is very disappointing, and shows what heart-breaking work tin mining is just at present. When is the long-talked-of improvement coming?

Tincroft has made a loss of 235*l*. East Pool has given a dividend of 2*s*. per share, and West Tolgus (copper) one of 30*s*. per share. At the last named mine it has been resolved to adopt boring machinery, and the Barrow drill has been selected. JAMES H. CROFTS.

DOLCLETTWR.—An important discovery has lately been made in this mine; two men were put to prove the copper lode in the 10 fm. level, they have now driven 12 ft., and are not yet through the lode, which in some places is nearly solid copper, and will command a high price. This property, which is in the Talybont district, is now to be vigorously worked by a private local company, and will, it is expected, well repay them. Copper ore from the same lode has been sold as high as 25*l*. per ton.

PARRACOMBE (Silver-Lead).—The proprietors of this mine have received very encouraging reports from two competent mining engineers, who have recently inspected the property. The sett being a very extensive one, and there being every prospect of its becoming a very valuable mine with a little further development, the engineers recommend that the operations should be carried on on a somewhat larger scale. We understand that the work will shortly be resumed under the direction of a company.

WEST CRAVEN MOOR LEAD MINE.—A most important improvement has taken place in this property in the end in the Blackhill level; the lode is worth 3 tons of ore per fathom; it is 12 in. solid lead in the end. The new Blackhill shaft is down 7 fms. below the adit, and will be down to the depth required (12 fms.) early in April, when they will get under the ore ground, which in the adit level is worth 3 tons of ore to the fathom. In No. 2 stope the vein is 3 ft. wide, and producing ore in paying quantities. In No. 3 stope the vein is worth 25 cwts. of lead ore per fathom. In the new east shaft, on No. 3 vein, the lode is 3 ft. wide, composed chiefly of gossan, spar, and solid branches of lead ore. No. 2 vein here is worth 2 tons of lead ore per fathom. They sold 20 tons 1 cwt. 1 qr. 4 lbs. of pig lead to Messrs. Hutchinson and Son last month, which realised 117*l*. 12*s*. 6*d*. per ton, and have another 20 tons of lead ore at the smelt-mill. Between the east and west shafts, from the 20 to the 30 fm. levels, alone will lay open some 4000*l*. worth of lead ore, exclusive of all other points. The mine is opening out rich, and is likely to become a great prize; in fact, it is expected to pay profits this year.

IN THE MATTER OF THE SICILIAN SULPHUR MINES COMPANY (LIMITED). *IN LIQUIDATION.*

NOTICE IS HEREBY GIVEN, that the Liquidators of the above company are authorised to INVITE TENDERS for the PURCHASE of the MINES in the ISLAND OF SICILY, the property of the company, with the FIXED and MOVEABLE PLANT.

Full particulars of the leases under which the mines are held, and all further information, can be obtained at the office of the company, 60, Queen Victoria-street, London, E.C.

Tenders are to be sent, addressed to the Liquidators at the above office, on or before Friday, the 15th March next.

The Liquidators do not bind themselves to accept the highest or any Tender.

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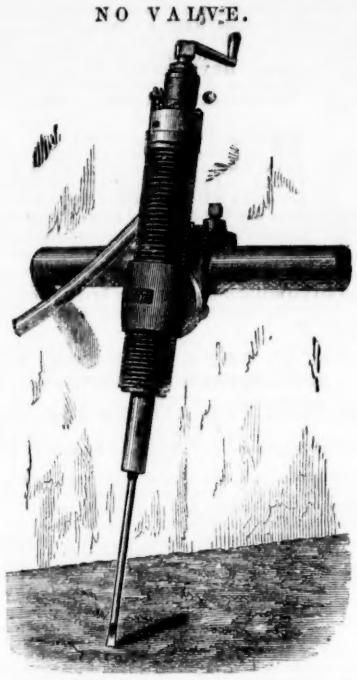

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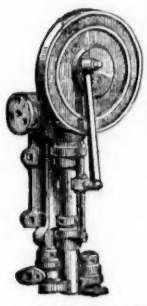

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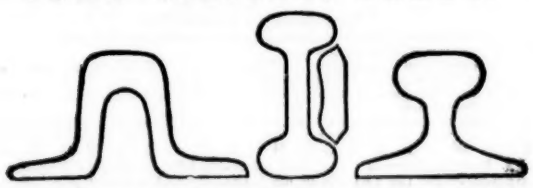

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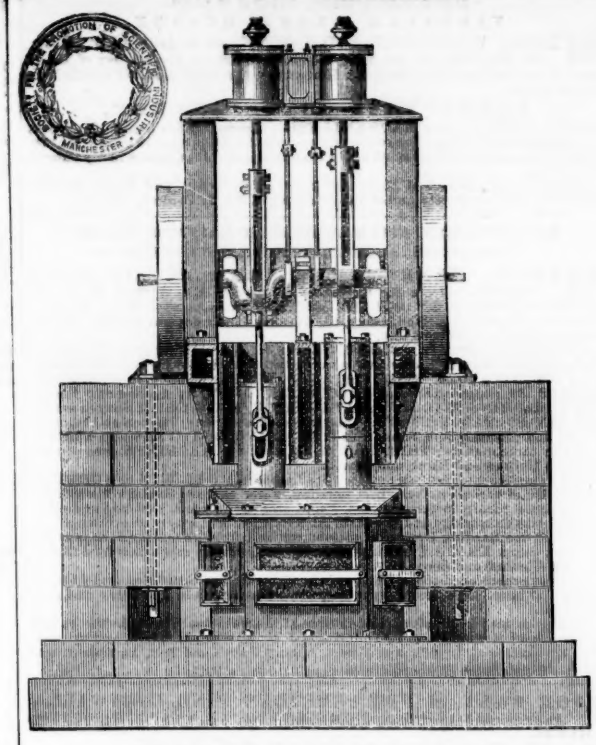

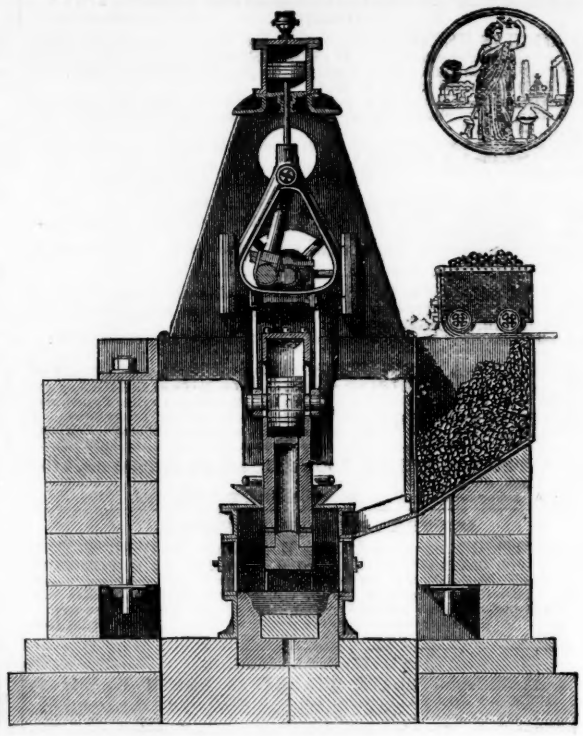

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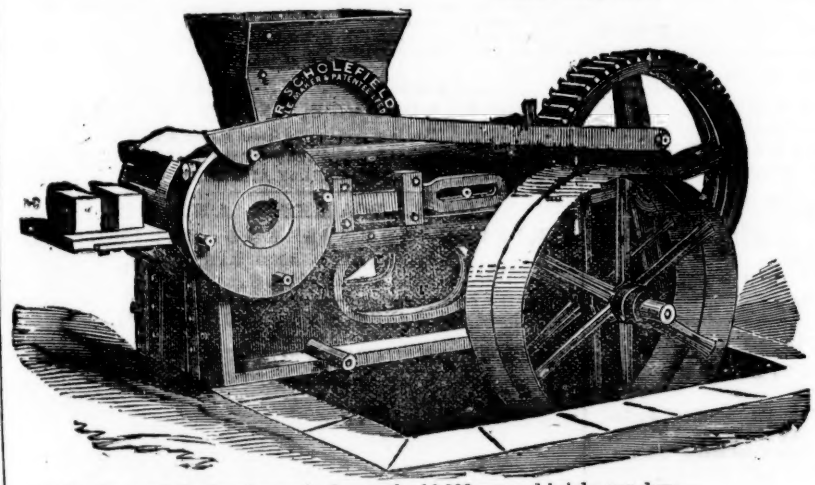

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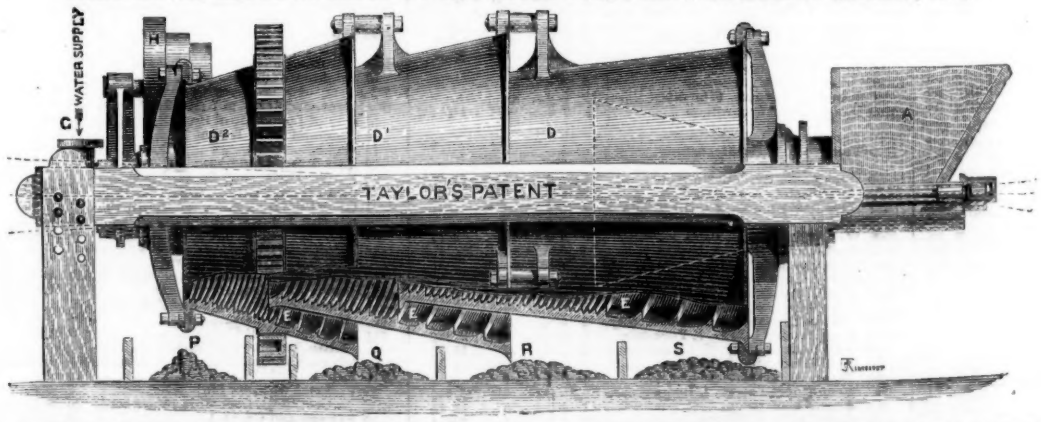

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4000	Brookwood, *c*, Buckfastleigh	1 16 0	1	⅛ 1	3 16 0	0 2 0	Nov. 1875
2000	Bryn Alyn,* *l*, Denbigh	10 0 0	—		0 7 0	0 7 0	Jan. 1877
6400	Cashwell, *l*, Cumberland*	2 10 0	2¼	2 2¼	1 9 6	0 2 0	Aug. 1876
1000	Carn Brea, *c, t*, Illogan†§	36 7 6	41	39 41	308 0 0	1 0 0	Feb. 1874
2450	Cook's Kitchen, *t*, Illogan†§	24 4 0	3	2½ 3	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, *c*, Tavistock†*	1 0 0	3½	3 3¼	116 15 0	0 5 0	July 1877
4296	Dolcoath, *c, t*, Camborne	10 14 10	32	30 32	112 1 3	0 5 0	Dec. 1877
8000	East Black Craig,* *l*., Scotland	5 0 0	—		0 10 0	0 10 0	Feb. 1877
800	East Darren, *l*, Cardiganshire	32 0 0	—		235 10 0	1 0 0	Aug. 1876
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18000	Great Dyliffe,* *i*, Montgom	4 0 0	3	2 3	0 2 6	0 2 6	Apr. 1876
15000	Great Laxey, *l*, Isle of Man*	4 0 0	21½	20 21	23 3 0	0 10 0	Jan. 1878
615	Gt. Retallack, *l, bl*, Perranzabuloe	5 18 6	—		0 1 6	0 1 6	May 1876
6400	Green Hurth, *l*, Durham*	0 6 0	3	2¾ 3	1 15 0	0 3 0	Aug. 1877
20000	Grogwinion, *l*, Cardigan*	2 0 0	4	3½ 4	0 14 0	0 2 0	Jan. 1878
9830	Gunnislake (Clitters), *t, c*	5 5 0	2¾	2½ 2¾	0 13 9	0 1 0	Oct. 1876
60000	Holmbush, *a, c, s-l*, Callington*	1 0 0	1¾	1½ 1¾	0 4 6	0 0 6	Sept. 1877
2800	Isle of Man, *l*, Isle of Man*†	25 0 0	—		82 5 0	0 10 0	Feb. 1876
20000	Leadhills,* *l*, Lanarkshire	6 0 0	4	3¼ 4	0 12 0	0 6 0	Oct. 1877
400	Lisburne, *l*, Cardiganshire	18 15 0	75	70 75	585 10 0	1 0 0	Feb. 1878
14000	Llanidloes,* *l*, Montgomery	3 0 0	1¾	¾ 1¾	0 9 0	0 4 6	Nov. 1876
9000	Marke Valley, *c*, Linkinhorne	5 3 6	¾	⅝ ¾	7 15 0	0 2 0	Jan. 1876
10000	Mellanear Copper, Hayle*	2 0 0	3	2¾ 3	0 2 0	0 2 0	Jan. 1878
9000	Minera Mining Co., *l*, Wrexham*	0 10 0	20	18 20	67 10 8	0 2 6	Feb. 1878
20000	Mining Co. of Ireland, *cl, c, l**	7 0 0	—		23 17 6	0 2 6	Jan. 1878
444	North Busy, *c*, Chacewater	3 9 6	5	4 5	1 10 0	1 0 0	July 1877
10289	North Hendre, *l*, Wales	2 1 0	—		1 12 6	0 2 6	Aug. 1877
30000	Panty Mwyn,* *l*, Mold (8794 iss.)	2 0 0	3	2½ 3	0 1 0	0 1 0	Feb. 1874
6000	Pedn an-drea Con., *t*, Redruth	0 8 6	6½	6¼ 6¼	0 9 0	0 9 0	June 1877
5000	Penhalls, *t*, St. Agnes	3 2 6	1	¾ 1	3 13 6	0 2 0	July 1877
6000	Pennant, *l*, *bar*, North Wales*	5 0 0	5	4½ 5	0 5 0	0 5 0	Mar. 1877
45793	Penstruthal,* *t, c*, Gwennap	2 0 0	6s.	4s. 6s.	0 2 8	0 0 8	Nov. 1875
18000	Prince Patrick,* *s-l*, Holywell	1 0 0	2¼	1¾ 2¼	0 14 0	0 1 3	Jan. 1876
10000	Red Rock,* *l*, Cardigan	2 0 0	2½	2 2½	0 4 0	0 2 0	Jan. 1878
12000	Roman Gravels, *l*, Balop*	7 10 0	8	7½ 8	7 10 6	0 8 6	May 1877
512	South Caradon, *c*, St. Cleer	1 5 0	90	85 90	741 10 0	2 0 0	Dec. 1877
6123	South Condurrow, *t, c*, Camborne§	6 5 6	9½	9 9½	3 5 0	0 7 0	Jan. 1878
12000	St. Harmon,* *l*, Montgom	3 0 0	3	2 3	0 6 0	0 3 0	July 1877
10000	So. Fr. Patrick,* *s-l*. (8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
12000	Tankerville, *l*, Balop*	6 0 0	4	3½ 4	4 17 0	0 5 0	Dec. 1876
6000	Tincroft, *c, t*, Pool, Illogan†	9 0 0	12	11 12	50 8 6	0 5 0	May 1877
15000	Van, *l*, Llanidloes*	4 5 0	30	25 27½	22 15 6	0 12 0	Jan. 1878
3000	W. Chiverton, *l*, Perranzabuloe†	12 10 0	15	14 15	55 10 0	0 10 0	Feb. 1878
1783	West Poldice, St. Day	10 0 0	15	13 15	1 19 0	0 4 0	July 1876
512	West Tolgus, *c*, Redruth	95 10 0	76	73 75	26 15 0	1 10 0	Feb. 1878
2048	West Wheal Frances, *t*, Illogan	28 1 3	4¼	3¾ 4½	3 12 6	0 5 0	Oct. 1872
12000	West WyeValley,* *l*, Montgom	3 0 0	4	3½ 4	0 12 0	0 3 0	Nov. 1877
1024	Wh. Eliza Consols *t*, St. Austell	18 0 0	—		15 10 0	1 10 0	Oct. 1877
2048	Wheal Jane, *t*, Kea	2 13 10	1¼	1 1¼	8 5 0	0 5 0	July 1875
4295	Wheal Kitty, *t*, St. Agnes	5 4 6	2½	2 2¼	11 19 6	0 2 6	Dec. 1874
25000	Wh. Newton, *a, c, s, t*, Calstock*	1 0 0	5½	5 5½	0 8 6	0 4 0	Sept. 1877
80	Wheal Owles, *t*, St. Just§	86 5 0	100	90 100	522 10 0	4 0 0	Aug. 1872
6000	Wheal Prussia, *t*, Redruth	0 5 0	7½	7 7¼	0 4 0	0 1 0	July 1877
10000	Wye Valley, *l*, Montgomery*	3 0 0	2	1¾ 2¼	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
355 0	Alamillos, *l*, Spain*†	2 0 0	2	1½ 2	1 18 3	0 1 0	Oct. 1877
30000	Almada and Tirito Consol., *s*†	1 0 0	½	¼ ⅛	0 6 3	0 1 0	May 1876
20000	Australian, *c*, South Australia†	7 7 6	2	1½ 2	0 19 6	0 1 6	July 1877
10000	Battle Mountain,* *c*, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, *g*, California*	4 0 0	¼	⅛ ¼	0 14 0	0 2 6	June 1874
12820	Burra Burra,* *c*, So. Australia	5 0 0	—		70 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	33	32 33	29 12 6	0 17 6	Dec. 1877
34433	Cedar Creek, *g*, California*	5 0 0	⅜	⅛ ⅜	0 5 0	0 2 6	June 1878
35000	Cesena Sul. Co., Romanga, Italy*	10 0 0	—		0 10 6	0 3 0	Aug. 1877
15000	Chicago, *s*, Utah*	10 0 0	2	1 1½	2 8 0	0 4 0	Nov. 1876
65000	Colorado United, *s-l*, Colorado*†	5 0 0	1¾	1¼ 1¾	0 13 6	0 4 0	Jan. 1878
10000	Copiapo, *c*, Chili* (£20 shares)	16 15 0	—		7 11 5	0 3 0	May 1877
1 0000	Don Pedro North del Rey*†	0 16 0	⅜	⅛ ⅜	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt & Aurora, *s*, Nevada*†	10 0 0	6¾	6¼ 6¾	1 8 0	0 3 0	Dec. 1877
70000	English & Australian, *c*† S. Aust.	2 10 0	1¾	1 1¼	2 15 9	0 1 0	Mar. 1877
30000	Flagstaff, *s*, Utah*	10 0 0	1	¾	4 2 0	0 5 0	July 1878
25000	Fortuna, *i*, Spain*†	2 0 0	5¾	5¼ 5¾	6 14 10	0 6 8	Oct. 1877
55000	Frontino & Bolivia, *g*, New Gran.*†	2 0 0	2¼	1¾ 2¼	0 1 0	0 1 0	June 1876
30000	Gold Run, *hyd.*	1 0 0	—		0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 6	June 1873
20000	Last Chance, *s*,* Utah	5 0 0	1	¾ 1	0 14 0	0 2 0	July 1878
15000	Linares, *l*, Spain*†	3 0 0	7	6¼ 6¾	17 3 10	0 6 8	Oct. 1877
85000	London and California, *g*†§	2 0 0	⅜	⅜ ⅜	0 1 0	0 1 0	July 1878
7837	Lusitanian, Portugal*† (£5 sh.)	3 10 0	—		1 11 6	0 1 6	Mar. 1878
5000	Mamm Copperopolis of Utah, *c, s*	10 0 0	—		0 5 0	0 5 0	Dec. 1872
8000	Mountain Chief, *s*, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1878
10000	Pontgibaud, *s-l*, France†	20 0 0	27	25 27	25 8 0	1 11 0	Nov. 1877
60000	Port Phillip, *g*, Clunes*†	1 0 0	¾	⅝ ¾	1 10 0	0 1 0	Jan. 1878
54000	Richmond Consols, *s*, Nevada*†..	5 0 0	8¼	8¼ 8¾	4 4 0	0 7 6	Feb. 1878
40000	Santa Barbara,* *g*, Brazil	0 10 0	1½	1 1½	0 3 9	0 1 3	May 1877
120000	Scottish Australian Mining Co.*†	1 0 0	1¾	1½ 1¾	15 per cent.		Nov. 1877
80000	Scottish Austral. Mining Co., New	0 10 0	⅞	¾ ⅞	15 per cent.		Nov. 1877
112500	Sierra Buttes, *g*, California*†	2 0 0	1⅜	1⅜ 1⅝	1 18 0	0 2 0	Oct. 1877
60000	South Aurora, *s*, Nevada*	5 0 0	¼	⅛ ¼	0 14 2	0 2 0	Nov. 1873
£253000	St. John del Rey*† (£5 stock & multiples dealt in)		315	325	¾ year	20 p. ct.	for Dec. 1876
20000	Tolima, *g, s*, So. America	5 0 0	—		0 11 6	0 0 6	May 1874
25000	Victoria (London)*, *g*, Australia	1 0 0	⅜	⅝ ¾	0 12 6	0 0 7½	Jan. 1878
15000	Western Andes, *s*,* New Granada	5 0 0	—		0 12 0	0 12 0	July 1876
21000	W. Prussian (5500 pref. sh. 10*l*. pd)	10 0 0	11¼	10¾ 11¼	1 8 0	0 4 0	Jan. 1878

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—	—	Fully pd.
12000	Argentine, *g*, Argentine Republic	5 0 0	—	—	Fully pd
3000	Bellavista, *s*, Peru* (£10 shares)	10 0 0	—	—	Fully pd.
30000	Blue Tent, *hyd.*, California	5 0 0	3	2 3	Fully pd.
49935	Chontales, *g, s*, Nicaragua*†	2 0 0	¾	⅝ ¾	Fully pd.
16000	Condes of Chili, *s-l*	5 0 0	—	—	Fully pd.
20000	Engish Australian, *g*, Victoria*	1 0 0	⅞	⅝ ⅞	Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—	—	Dec. 1871
100000	Exchequer, *g, s*, California*†	1 0 0	4s.	2s. 4s.	Fully pd.
40000	Holcombe Valley, *g*,* California	1 0 0	—	—	Fully pd.
8000	Hornachos,* *s-l*, Spain	10 0 0	12¼	12 12½	Fully pd.
12000	Hultafall,* *l, bl*, Orebro, Sweden	5 0 0	5	4½ 5	Fully pd.
12000	Hunter Consolidated, *s-l*, Utah	10 0 0	—	—	Fully pd.
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	—	—	Fully pd.
00000	I. X. L., *g, s*, California*	1 0 0	4s.	2s. 4s.	Fully pd.
80000	Javali, *g*, Nicaragua*	2 0 0	⅜	¼ ⅜	Fully pd.
3500	La Manche, *l*, Newfoundland	10 0 0	—	—	Fully pd.
12000	Lanestoss,* *l, s*, Viscaya, Spain (£2 shares)	1 15 0	—	—	Mar. 1876
75000	Malabar, *g*, Colombia* (67165 issued)	1 0 0	⅜	⅛ ⅜	Fully pd.
40000	Malpaso, *g*, Colombia* (7400 pref. shares, fully paid)	1 0 0	⅛	¼ ⅛	Fully pd.
12000	Meuzenberg, *c*, Honnef, Germany*	5 5 0	—	—	Fully pd.
4588	New Bensberg, *i, l*, Germany	5 0 0	—	—	Nov. 1876
66000	New Quebrada, *c*, Venezuela*	5 0 0	2½	1⅞ 2⅛	Fully pd.
20000	New Zealand Kapanga, *g*, Coromandel*	5 0 0	1½	⅞ 1⅛	Fully pd.
8000	Oregon,* *g*, Oregon, U.S. (preference shares)	4 0 0	—	—	Fully pd.
50000	Panulcillo, *c*, Chili*† (£80000 debentures)	4 0 0	1¾	1¼ 1¾	Fully pd.
8000	Pestarena United, *g*, Italy*†	3 0 0	⅜	¼ ⅜	Fully pd.
50000	Providencia and New Rosario, *s*, Mexico*	1 0 0	—	—	Fully pd.
50000	Rica, *g*, Colombia* (40000 issued)	1 0 0	¼	⅛ ¼	Fully pd.
£2,181,000	Rio Tinto,* *c*, Huelva, Spain	Stock	60	57 59	Fully pd.
100000	Rossa Grande, *g*, Brazil*† (£1 shares)	0 19 0	—	⅛	July 1872
30000	Russia Copper, Orenburg and Ufa*†	10 0 0	1½	1 1⅛	Fully pd.
25000	San Pedro, *c*, Chili*	2 0 0	—	—	Fully pd.
10000	Silver Plume, *s*, Colorado*	1 0 0	—	—	Fully pd.
30000	Tecoma, *s*, Utah*	10 0 0	½	⅜ ⅝	Fully pd.
20000	Thornhill Reef, *g*, Australia*	1 0 0	—	—	Fully pd.
43174	United Mexican, *s*, Mexico*†‡	28 15 3	2½	2 2½	May 1875
14000	Utah, *g, s-l*, Utah*	5 0 0	—	—	Fully pd.
25000	Virneberg, *c* Rheinbreitbach, Germany* (£2 shares)	1 10 0	1½	1¼ 1½	Jan. 1878
18000	Yorke Peninsula, *c*, South Australia	1 0 0	⅛	⅛ ⅛	Fully pd.
40000	Yorke Peninsula, *s*, South Australia Preference	1 0 0	1	¾ 1	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices.	
Argentine, 1868, 6 per cent.	67	69
Bolivia, 6 per cent.	22	23
Brazilian, 1865, 5 per cent.	90	92
Chilian, 1866, 7 per cent.	102	104
City of Providence, 5 p.c. coupon bnds	98	100
Egyptian, 5 per cent. pref.	48	48½
Do., unified debt, scrip	26	26½
Do., 7 per cent., V.M.L.	57	61
Do., 9 per cent. guar.	56	62
Do., 7 per cent., K.M.L.	39	41
Foreign and Col. Gov. Trust, 6 p. ct.	62	67
Do., 5 per cent., 2d issue	50	55
Do., 6 per cent., 3d issue	52	57
Do., 1872, 4th issue	42	47
Do., 1873, 5th issue	45	50
Peruvian, 1870, 6 per cent.	13½	14½
Do., 1872, 5 per cent.	11¾	11¾
Russian, 5½ per cent. L. Mort.	—	—
Spanish, Quicksilver Mort., 5 p. ct.	96	98
United States Mort., 6 per cent.	95	97

NON-DIVIDEND MINES.

Shares.		Paid.	Last wk.	Clos. pr
40000	Aberdaunant, *l*, Llanidloes*	1 0 0	—	
10000	Aberystwith,* *s-l*, Cardigan	5 0 0	—	
80	Albion, *i*, Cornwall	100 0 0	100	100
7800	Alvig. & Burng.,*t, St. Aust.	3 0 0	3	2½ 3
12000	Assneton, *i*, Carnarvonshire*	5 0 0	1	¾ 1
50000	Ballycummisk,* *c*, Schull	2 0 0	—	
12000	Bedford Unit.,* *c*, Tavist. (1*l*. liab.)	—		½ ⅛ ⅜
28000	Belstone,* *c*, Devon (27,000 fy. pd.)	1 0 0	—	
800	Blaen Caelan,* *l*, Cardigan	3 0 0	4	4 4¼
3937	Blue Hills, *t, c, s*, St. Agnes	3 12 6	3¼	3 3¼
30000	Bodidris,* *l, bl*, Denbighshire	1 0 0	1¾	1 1¾
1000	Bollihope Vale,* *s-l*, Durham	5 0 0	—	
200	Botallack, *t, c*, St. Just†	123 15 0	—	
2000	Bowden Hill,* *mn*	1 0 0	—	
6000	Bradwell Moss Rake	1 0 0	1	⅞ 1
50000	Cambrian,* *s-l, c*, Cardiganshire	2 0 0	3	2½ 3
3348	Cargoll, *s-l*, Newlyn†	6 19 0	2¾	2 2¾
10000	Caron, *l*, Cardigan*	2 0 0	2¾	2½ 2¾
20000	Central Foxdale, *l*, I. of Man*(2*l*. sh.)	1 5 0	—	
10000	Central Van,* *l, bl*, Llanidloes	5 0 0	—	
128	Clementina, *l*, Llanrwst	20 0 0	—	
7500	Combellack,* *t*, Wendron	2 0 0	—	
6000	Combmartin, *s-l*, North Devon	0 7 0	½	¼ ½
24 000	Court Grange, *s-l*. (6000 sh. 10s. pd.)	1 0 0	1¼	1 1¼
2 000	Cwm Dwyfor,* *c, s-l*, Carnarvonsh	0 18 9	—	
650	Cwm Lanarch,* *s-l*, Carnarvon	2 0 0	—	
3000	Cwmystwith (New) [5*l*. shares]	4 0 0	—	
512	D'Eresby Mountain, *l, bl*, Llanrwst	20 0 0	60	50 60
10000	Denbighshire Consolidated, *l**	3 0 0	¾	⅝ ¾
12000	Derwent,* *l*, Durham	4 0 0	2	1¾ 2
10000	Dubby Syke, *l*, Durham*	0 12 6	½	⅜ ½
6144	East Caradon, *c*, St. Cleer†	2 16 6	1	¾ 1
4000	East Chiverton, *l*, Perranzabuloe	7 1 0	3	2 3
3000	East Craven Moor*, *l*, Pateley Bdge	10 0 0	10½	9¼ 10½
6000	East Goginan, *l*, Cardigan	2 0 0	—	
18000	East Van, *i*, Llanidloes*	5 0 0	2¼	2 2½
1722	East Wh. Lovell, *t*, Helston	8 11 0	1	¾ 1
20000	Elgar,* *s-l*, Cardiganshire	1 0 0	1¾	1 1¾
8000	Fronvellan, *l*, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
3950	Gawton, *c*, Tavistock	4 5 6	¼	⅛ ¼
12000	Glan Clwyd,* *l*, Gwyddelwern	1 0 0	—	
14000	Glenroy,* *s-l*, Isle of Man	4 5 0	1	¾ 1
10000	Glyn,* *l*, Llanidloes	2 0 0	⅝	⅜ ⅝
12000	Goginan, & Level Newydd, Card., *l*	2 10 0	—	
100000	Gold, *g*, Merionethshire	1 0 0	—	
20000	Goren,* *s-l*, Carmarthen	1 0 0	1¾	1⅛ 1¾
20000	Gt. E. Foxdale, *l*, I. of Man (1*l*. sh)	0 18 0	—	
12000	Great Holway,* *l*, Flintshire	5 0 0	5½	5 5¾
9500	Great Pant-y-Pydew, *l*, Holywell	2 0 0	—	
256	Gt. Wheal Eleanor, *t*, North Bovey.	1 15 0	1¾	1¾ 2
10000	Harehope Gill,* *l*, Durham (£1 sh.)	0 5 0	—	
6400	Harwood,* *l*, Durham	0 15 0	1	1
1024	Herodsfoot, *l*, near Liskeard†	8 10 0	10	9 10
18000	Hingston Down, *c*. Calstock*†	0 5 0	⅝	½ ⅝
5000	Hush Elsteddfod Minera,* *l*	2 0 0	—	
200	Islay,* *l*, Scotland	28 0 0	—	
2500	Killaloe, *sl*, Tipperary†	1 0 0	—	
4000	Killifreth, *t*, Chacewater	2 1 0	⅜	⅛ ⅜
25000	Kingston Con., *s-l*, Stoke Climsland.	1 0 0	—	
	Ditto, preference	1 0 0	1⅛	1 1⅛
12000	Ladywell,* *l*, Balop	2 10 0	1	⅞ 1
12000	Ditto, 10 per cent. pref., 1*l*. each	0 10 0	⅝	½ ⅝
2500	Levant, *c, t*, St. Just	9 18 6	—	
6000	Livingstone Consols, *t*, St. Agnes	0 10 0	1	¾ 1
5120	Lovell, *t*, Wendron	0 16 0	2	1½ 2
25000	Llanrhaiadr, *l*, Montgomery*	2 0 0	—	
30000	Llanrwst,* *l*, Carnarvon	2 0 0	—	
6000	Medlyn Moor, *t*, Wendron	1 17 4	—	
11000	Melyndwr, *l*, Cardigan*	3 0 0	¾	¾ 1¼
11000	Monydd Gorddu, *l*, Cardigan*(Red.)	5 0 0	—	
12000	Morfa Du, *z, g, s*, Anglesea	1 0 0	⅞	⅝ ⅞
25000	Nant-y-Ronen, *s-l*, Cardigan*	1 0 0	—	
15000	Nascent Copper*	1 0 0	—	
4525	New Bronfloyd,* *l*, Cardigan (8*l*. sh.)	3 10 0	4	3½ 4
8000	New Dolcoath, *t, c*, Camborne*	3 0 0	1¾	1½ 1¾
20000	New East Foxdale, *s-l*, Isle of Man.	0 15 0	—	
18000	New Fowey Consols, *t*, St. Blazey*.	3 0 0	2	1½ 2
1492	New Hendra, *t*, Breage	3 9 0	—	
3200	New South Merlivn, *l*, Flint*	2 10 0	1	¾ 1
3500	New Tincroft,* *t*, Lelant	6 0 0	3	2½ 3
5000	New Wheal Emma, *c*. Buckfastleigh	2 0 0	—	
4000	North Cornwall,* *l*, Cornwall	5 0 0	5½	5½ 5¾
25000	North Laxey,* Isle of Man	2 0 0	¾	2s. 4s.
2000	North Levant, *t, c*, St. Just†	12 8 0	1	¾ 1
20000	North Prince Patrick,* *l*, Holywell	1 0 0	—	
5936	North Treskerby, *c*, St. Agnes	5 7 10	—	
2000	North Wheal Towan, *t, c*, Illogan	1 19 6	—	
6400	Oola Hills,* *s-l*, Limerick	5 0 0	—	
12000	Pandora,* *l*, Carnarvon	2 0 0	1	¾ 1
18923	Parys Mountain,* *c*, Anglesea	3 0 0	⅛	⅛
12000	Phœnix, & W. Phœnix, *t, c*, Link,§	5 7 3	5	4½ 5
4000	Pateley Bridge, *l*, Yorkshire	5 0 0	3	2½ 3
12000	Plynlimmon, *l*, Llanidloes*	2 0 0	6s.	4s. 6s.
10000	Port Nigel,* *s-l*, Carnarvonshire	2 0 0	⅛	⅜ ⅛
2000	Prideaux Wood, *t*, Llanivery	5 0 0	—	
5182	Prince of Wales, *c*, Calstock†	2 4 0	¼	⅛ ¼
6000	Relistian Consols, *c*, Gwinear	0 10 0	⅜	⅛ ⅜
15000	Rookhope, *l*, Durham*	1 10 0	1	⅝ 1
5000	Silvercross,* *c, t*, Marazion	1 0 0	—	
4200	Snowbrook, *s-l*, Montgomery	5 0 0	—	
000	So. Cwmystwith, *l*, Cardiganshire.	2 0 0	4	3 4
6000	South Darren, *l*, Cardigan*	1 10 0	1¾	1½ 1¾
512	South Dolcoath, *c, t*, Redruth	12 5 0	1⅝	1 1⅝
5000	So. Molton Cons., *s-l*, No. Devon	0 2 0	1¼	1¼ 1½
18000	South Roman Gravels, *l**	1 10 0	⅜	⅛ ⅜
6000	South Roskear, *t, c*, Camborne	6 10 0	5	4 5
6000	South Tolcarne, *t, c*, Camborne	2 11 6	¾	⅜ ¾
937	South Wheal Crofty, *c*, Illogan†	40 0 10	9	8 9
4500	South Wh. Frances, *c*, Illogan†	7 12 4	1¾	1½ 1¾
6000	St. Lawrence, Amal., *l*, Flintshire*	2 0 0	—	
10000	St. Patrick, *l*, Halkin, Holywell*	1 0 0	1⅜	1 1⅛
6000	Success, &c., *l*, Derb. (12,000*l*. called)	1 0 0	—	
16000	Sunnyside,* *l*, Durham	2 0 0	2½	2 2¼
30000	Talybont, *s-l*, Cardiganshire	1 0 0	1¼	1 1¼
6400	Teesdale,* *i*, Durham	1 0 0	⅜	¼ ⅜
14000	Teign Valley, *i*, *bar*., Bridford	1 0 0	—	
10000	Temple, *l*, Cardigan*	1 0 0	3	2⅞ 3
10000	Tolgus Consols,* *c*, Redruth	5 0 0	5	4 5
12000	Trebeigh Consols, *s-l*, St. Ive	0 9 6	⅜	¼ ⅜
5000	Treleigh Wood, *t*, Redruth	6 1 0	—	
12000	Trethellan, *s-l*, Crantock*	2 0 0	—	
640	Truro*, *l*, Nerquis, Flintshire	10 0 0	—	
10000	Tyn-y-Fron,* *l*, Cardigan	1 0 0	1½	1¼ 1¾
20000	Van Consols, *l*, Llanidloes*	2 10 0	½	⅜ ½
1000	Vaughan*, *i*., Cardiganshire	10 0 0	—	
12000	West Assheton, *l*, Carnarvon	1 0 0	¾	½ ¾
6000	West Basset, *c*, Illogan†§	6 6 8	¾	½ ¾
5500	West Combmartin, *s-l*, North Devon	1 0 0	—	
7000	Ditto	0 2 6	—	
3000	W. Craven Moor, *l*, Pateley Bridge*.	10 0 0	10	9 10
5000	West Godolphin, *t, c*, Breage	2 10 0	1¾	1⅛ 1¾
12000	West Goginan,* Cardiganshire	2 0 0	⅜	⅛ ⅜
10000	West Llangynog, *s-l*, Montgomery.	2 0 0	—	
3000	West Mary Ann, *l*, Menheniot	0 3 6	1	⅜ 1
50000	West Milwr, *s-l*, Flint	1 0 0	—	
5000	West of England Granite Company.	2 0 0	2	2
20000	West Pateley Bridge, *l*, Yorkshire.	1 0 0	2½	2 2½
1000	West Roskear, *t s-l, bl, c*, Camborne.	2 0 0	17	15 17
12000	West Tankerville,* *l*, Salop	3 0 0	¾	½ ¾
3000	Ditto, 15 per cent pref.	3 0 0	2	1¾ 2
3000	West Wheal Peevor, *t*, Redruth	0 10 0	6½	6 6½
600	West Wheal Seton, *c*, Camborne†	47 0 0	14	11 13
6000	Wheal Agar, *c*, Illogan	12 0 0	4	3½ 4
512	Wheal Basset, *c*, Illogan†	24 2 6	12	10 12
6000	Wheal Coates, *t*, St. Agnes	2 0 0	—	
2635	W